THE VOICE OF IT MANAGEMENT . WWW.COMPUTERWORLD.COM

Think your top IT talent is staying put? Think again. Half your IT middle managers may be headed out the door when the economy improves. Some have already checked out, mentally. Here's what you can do about it. Page 47

HP Plans Thin-Client System With PC Blades

Sees new technology as PC replacement that could cut companies' desktop TCO in half

BY PATRICK THIBODEAU

Hewlett-Packard Co. last week detailed a plan to market thin-client systems based on PC blades, which it claims have the potential to replace up to half of the existing desktops in midsize and larger companies.

The PC blade system, called the **HP** Consolidated Client Infrastructure, will be available in March. It consists of a thin client connected to a dedicated rack-mounted blade in the data center. The blade will run Microsoft Corp.'s Windows XP and use Transmeta Corp.'s Efficeon processor.

HP claims its PC blades can

halve the total cost of ownership for desktops, which it puts at about \$8,000 per

One company eyeing PC blades to reduce desktop costs is Wells' Dairy Inc., maker of Blue Bunny brand ice cream products in La Mars, Iowa.

The company already has some thin clients attached to servers, but Kim Norby, vice president of IT, said he's considering PC blades to cut desktop costs. "We're certainly very driven to continue to do more with what we have and be able to support HP Blades, page 60

Feds Say IT Security Lacking

ONLINE: Sun makes an

AMD-based blade server

QuickLink 43285

Regulation likely if private sector doesn't protect infrastructure

BY DAN VERTON



Ridge says cybersecurity depends on industry efforts.

Secretary of Homeland Security Tom Ridge last week warned the IT industry that the nation's critical infrastructure presents "an attrac-

tive target for terrorists" — a target that his top cybersecurity advisers said will be protected by government regulation if the private sector fails to bolster security.

Speaking to more than 300 IT executives at the first National Cyber Security Summit here, Ridge said terrorist

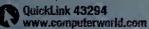
groups "know, as do we, that a few lines of code could ultimately wreak as much havoc as a handful of bombs."

Ridge encouraged the IT industry and the private businesses that own and operate more than 85% of the nation's critical infrastructures to lead the nation's cybersecurity efforts. "The continued success of protecting our cy-

MORE ONLINE

Reporter's notebook: A top DHS official speaks with Computerworld. QuickLink 43317

Cybersecurity task forces deliver action plans to the DHS:



berspace depends on the investment and commitment of

each of you and the business-

es you represent," he said. Cybersecurity, page 16

Offshore Support Questioned

Vendors must balance user satisfaction with desire to curb costs

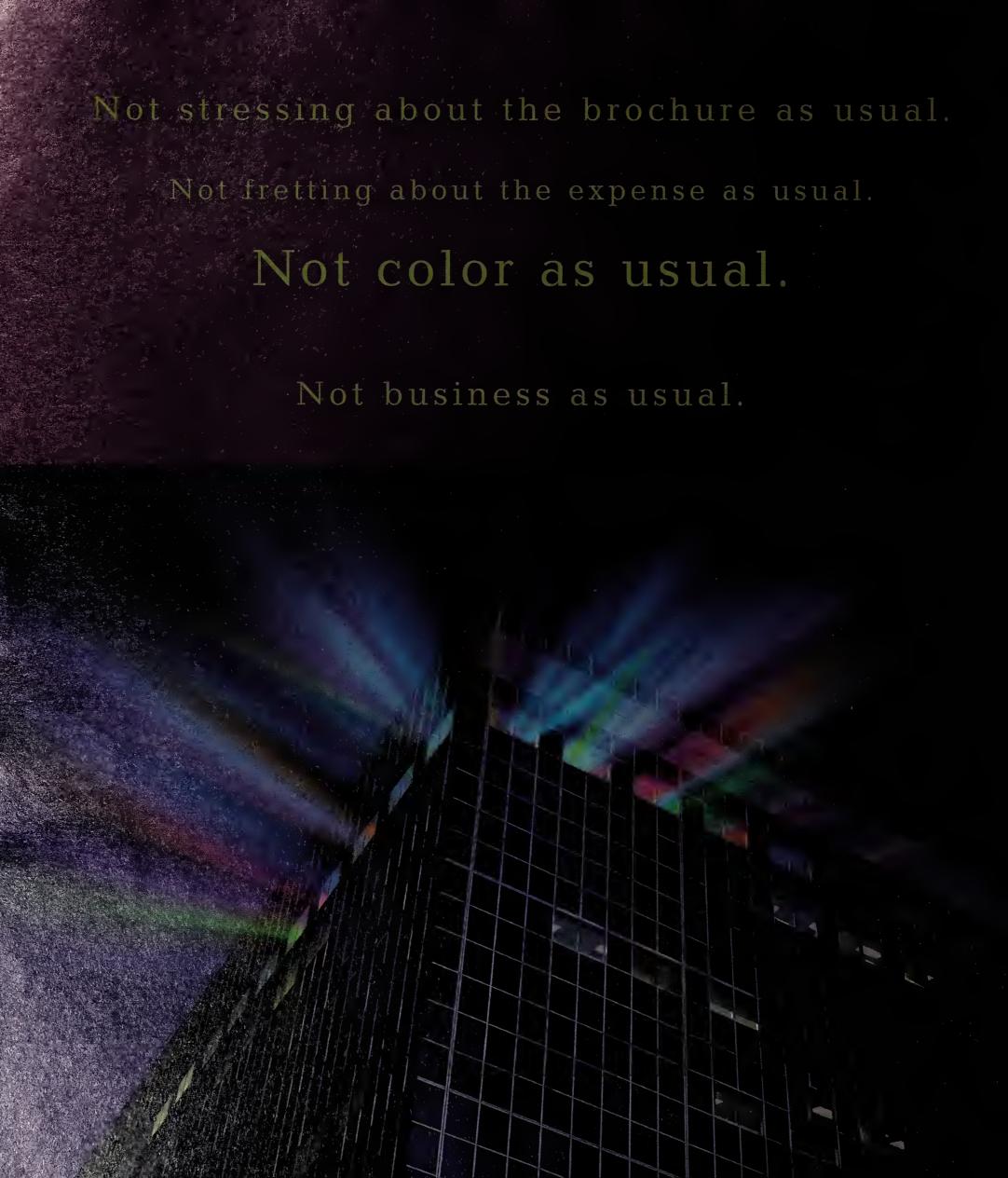
BY BOB BREWIN

Offshore technical support services have become a fact of life for many technology vendors and their customers. But both vendors and users last week said support operations have to balance their

desire to reduce labor costs with customer satisfaction considerations.

The issue came to the forefront late last month, when Dell Inc. said it was returning phone-based technical support for its corporate PCs to the U.S. because of complaints from some users about the quality of service they received from a call cen-

Support, page 16



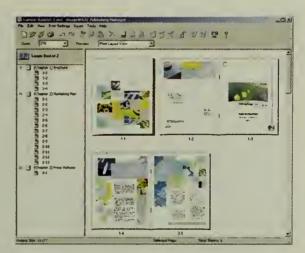




The Canon Color imageRUNNER® C3200 with imageWARE™ Publishing Manager is anything but business as usual. Actually, it's a totally new way of working that lets you create and print professional-quality color booklets, catalogs, brochures...you name it. In-house, right at your desktop. With imageWARE Publishing Manager, you can combine multiple documents created in different applications to form a single document.



You can import images or text streams, create and format chapters, renumber pages, insert headers and footers. You can apply editing, page imposition, print settings, and professional finishing. You can share it all with co-workers. You can manage it all every step of the way.



Canon's imageWARE Publishing Manager Software. Create and print color documents right from your desktop.

And we're just scratching the surface. This means no more endless waiting for that all-important document. See? At long last, you're in control. And ultimately, you're not stressing out. The Canon Color imageRUNNER C3200 with imageWARE Publishing Manager. For fast, affordable in-house color with professional-quality finishing. So say goodnight to business as usual.

www.imagerunner.com 1-800-OK-CANON



Faster than Verizon.
Faster than Sprint PCS.
Faster than Cingular.
Faster than T-Mobile.
Faster than Nextel.



For the fastest way to open large e-mail attachments on a national wireless network, switch to AT&T Wireless.

It's a fact. No one offers a faster national wireless data network than AT&T Wireless with EDGE technology. No one. With average speeds of 100—130 Kbps, bursts of up to 200 Kbps and secure wireless access, you can browse the Internet as well as download presentations, documents and spreadsheets nearly twice as fast as with any other national wireless data network. We work with leading IT companies to help you get more out of the technology you use every day, across the U.S. High-speed national wireless data is here. And no one is faster at it than AT&T Wireless. Call 1 888-DATA-288 or go to attwireless.com/speed



Open e-mail attachments at average speeds of 100 – 130 Kbps and bursts of up to 200 Kbps. Download large documents, presentations and reports in just seconds.

Faster data speeds from more places in the U.S. than with any other wireless carrier.

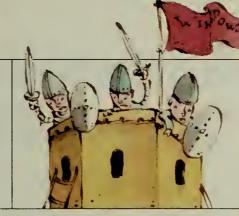


CONTENTS



Moving Data to the Mountain

In the Technology section: Once a limestone mine, Iron Mountain's underground facility was designed to protect corporate data from a nuclear blast. Today, its electronic data center helps clients comply with a spate of new regulations. Page 34



Windows Server 2003: Raising Shields

Also in the Technology section: Six months after its release, Windows Server 2003's early adopters give a thumbs up to new security features, but the overall security report card is mixed. **Page 29**

12.08.03

NEWS

- **6 Security group** releases draft guidelines for defining the chief security officer role.
- 7 IBM hopes EMC's customers will switch to its storage products with the help of its Piper data migration technology.
- 7 NetApp forges alliances as part of a plan to offer software with its storage devices.
- **8 CA adds** a Web services management tool to its Unicenter product line.
- **10 The Pentagon** is working with the private sector to develop common RFID standards.
- 10 BPM tools offer many benefits, but rollouts can be challenging, users say.
- 12 Las Vegas public schools are rolling out a \$31 million backbone network and digital/IP phone system.
- 12 Start-up offers software for designing data center racks.
- **14 PeopleSoft is changing** the pricing plan for J.D. Edwards products.
- **14 Patch management options** proliferate in Blaster's wake.
- 19 IT hiring plans for 2004 vary from company to company.
- **22 BEA and IBM team up** to work on new Java specs.
- **60 Microsoft loosens up** its policy for licensing its intellectual property.

TECHNOLOGY

- 36 Future Watch: The New Internet. Scientists are working on the next generation of the Internet, which will be self-aware and able to automatically determine the best way to deliver data and services—not to mention faster, more reliable and more secure.
- 40 Security Manager's Journal:
 Single Sign-on Effort Falls
 Short. Mathias Thurman's
 company merges its directories and moves toward single
 sign-on authentication, but
 implementing the system has
 some unexpected and undesired effects.

MANAGEMENT

- 47 Aiready Gone. Recent surveys indicate that when the economy improves, many IT middle managers may bolt out the door. Here's why and what you can do about it.
- 50 The Pros & Cons of CMM.

Offshore outsourcers tout their high Capability Maturity Model ratings, yet many U.S. companies can't take advantage of such quality and can end up paying for more than they need.

52 Preventing P2P Abuse.

University IT managers have become experts in combating the computer security and network-overload problems caused by peer-to-peer file swapping. Corporate IT managers can learn from their experiences.

OPINIONS

- 8 On the Mark: Mark Hall encounters a rare marketing bird one who thought Comdex was a success. And will IBM continue to run Eclipse?
- 24 Maryfran Johnson knows there's loads of dissatisfaction among IT workers, but she has found two simple, lowcost ways to boost morale.
- 24 Pimm Fox believes it's possible to save precious network bandwidth and protect your organization from copyright-violation problems.
- 25 Thornton A. May minces few words when chastising Microsoft and Sun for the "disconnects" that threaten the long-term value of IT.
- 44 Tommy Peterson suggests technologies to put on the next wish list you take to upper management.
- 54 Bart Perkins says upstarts are undercutting big outsourcers. That's bad news for the giants, but it could mean falling prices for their clients.
- **62 Frankly Speaking: Frank Hayes** dismisses White House efforts to help IT secure systems, saying it's a lot of talk and little substance.

DEPARTMENTS/RESOURCESAt Deadline Briefs6News Briefs8, 12Letters25IT Careers56Company Index59How to Contact CW59Shark Tank62

ONLINE

WWW COMPUTERWORLD COL

The Pathway to a Service-Oriented Architecture

DEVELOPMENT: Four steps to realizing business benefits from Web services. **QuickLink 43264**

The Benefits and Risks of Mobility

MOBILE/WIRELESS: A checklist for meeting the security challenges posed by handhelds and other mobile devices.

QuickLink 42963

Keeping Vendors on Their Toes

STORAGE: Maintaining multiple suppliers is a good way to keep vendors on their toes and prices competitive, but what are the technical issues to be aware of? **QuickLink 43243**

Security: An Executive Concern

SECURITY: Information security isn't just an 1T matter; it's also an organizational issue to be reckoned with at the executive level, says John De Santis, CEO of Sygate Technologies. He calls for new measures that gauge network security.

QuickLink 43210

Storage Gains Stature

STORAGE: The role of storage is evolving, especially in the wake of 9/11 and recent financial scandals, says Marc Farley, president of Building Storage. QuickLink 43238

Driving Successful CRM Adoption

SOFTWARE: Without user buy-in, even the best software can fail. Here's how to encourage employees to use the system you just installed. • QuickLink 43024

What's a QuickLink?

Throughout each issue of Computerworld, you'll see five-digit QuickLink codes pointing to related content on our Web site. Also, at the end of each story, a QuickLink to that story online facilitates sharing it with colleagues. Just enter any of those codes into the QuickLink box, which is at the top of every page on our site.

ONLINE DEPARTMENTS

Breaking News

OuickLink at510

Newsletter

Subscriptions

OuickLink a1430

Knowledge Centers

QuickLink a2570

The Online Store

Ouicklink a2420

Microsoft Upgrades **CRM Applications**

Microsoft Corp. today plans to announce an upgrade of its CRM software that's designed to provide tighter security and simplified installation. Version 1.2 of Microsoft CRM also supports more languages and will be offered outside of North America for the first time, company officials said. The software is available in North America now and will be released elsewhere next month.

Intel Sees Strong Revenue in Q4

Intel Corp. said it expects fourthquarter revenue to come in at the high end of the range it projected earlier in the quarter. Citing strong microprocessor sales, Intel said business should total between \$8.5 billion and \$8.7 billion. However, the company added that it will take a \$600 million charge to account for a reduction in the long-term growth forecast for its wireless networking business unit.

Software AG Trims Development Focus

Darmstadt, Germany-based Software AG said it's narrowing the focus of its software development operations to two product lines in a cost-cutting move. The company will concentrate on XML-based integration tools and its mainframe software, which may be expanded through acquisitions. In addition, technical support for the XML tools is being shifted from Germany to India.

Short Takes

YAHOO INC. upgraded its instant messaging software to plug a buffer overrun security vulnerability that attackers could use to run malicious code on unprotected systems. . . . DELL INC. is offering a Linux distribution developed by Beiling-based Red Flag Software Go, on most models of the Power-Edge servers it sells in China.

AT DEADLINE Guidelines Released To Craft CSO Position

Job requires understanding of a wide range of IT and other risks, group says.

BY JAIKUMAR VIJAYAN

KNOWLEDGE of information security risk management is iust one of the many skills that a chief security officer needs for crafting, influencing and directing an effective organizationwide protection strategy.

Increasingly, the job also calls for an understanding of issues as diverse as emergency preparedness, crisis management and response, physical security, disaster recoverability, and privacy and regulatory matters. That's the assessment of Alexandria, Va.-based ASIS International, a 33,000-member group of security professionals that last week released draft guidelines that companies can use when developing CSO positions.

"There's been a lot of discussion on the need for organizations to create a centralized governance function for many areas of risk," said Jerry Brennan, president of Vienna, Va.based Security Management Resources Inc. and one of the drafters of the document.

Defining the Job

The guidelines are the result of an attempt to give a formal definition of the scope, responsibilities, reporting relationships and experience needed to do the job, he said.

"There wasn't much available that addressed the pulling together, from a governance perspective, of all of the areas of security risk that an organization faces," Brennan said. "So we decided to try and craft a document that would be broad-based and truly represent what the CSO position would be in an organization."

The ASIS guidelines come at a time when a growing

number of security professionals say there needs to be a top-level management position to oversee all aspects of operational risk.

"I have always found it preposterous to suggest that there are separate disciplines that require separate management" when it comes to operational security, said Dennis Treece, director of corporate security at the Massachusetts Port Authority in Boston.

For example, installing a privacy officer who is separate from the rest of the security team only "fragments the effort and ensures that the physical and virtual aspects of privacy have to be laboriously coordinated," Treece said. The same is true when it comes to having separate chief information security officer and CSO functions. "Having been both separately and now both at the same time, I can state with confidence that combining them makes the most sense," he added.

Even so, security professionals agree that only a relatively small number of compa-

nies have created a formal CSO function because of the substantial political and organizational challenges that need to be overcome in creating the role. Issues such as scope, reporting relationships and ownership of risk management functions can all be sticking points.

Broadening the Scope

The popular notion of the CSO being in charge solely of IT and physical security functions has also somewhat limited the effectiveness of the role, said David W. Stacy, global IT security director at St. Jude Medical Inc., a \$1.6 billion manufacturer of medical equipment in St. Paul, Minn.

"I prefer the concept of the chief risk officer that encompasses these two areas" while also including other functions such as privacy, risk insurance and regulatory compliance, Stacy said.

"So, moving to a CSO model that only deals with IT security and physical security may be a logical first step to eventually getting to a CRO model," he added. "But even having a CSO would be a revolution, as opposed to an evolution, in many organizations."

Model Profile of

Global security policy and procedures administration Technology and infrastructure protection

Information risk management

Business continuity; crisis management and response

Employee risk awareness

Investigative and forensic services

Safe and secure workplace operations

Executive protection

But some security professionals have trouble with the concept of having an allencompassing role.

For one thing, "there is a huge difference between the practice of physical security management and information security management," said Eddie Schwartz, chief technology officer at Securevision LLC, a Fairfax, Va.-based consultancy. "While both disciplines have the use of technology as a common element, the background and education of the practitioners are distinct."

There's also the danger of rolling far too many functions under the CSO umbrella, Schwartz said. "It's an unnatural organization of activities and doomed to failure in most organizations," he said.

O 43322

Relationship Management Key Skill for CSO Role

Relationship management skills are a top requirement for a successful chief security officer, according to ASIS International's recently released draft guidelines for the function.

Because of the wide scope of the job, CSOs must be able to "influence and nurture" relationships with business-unit leaders, government officials and professional organizations, according to the ASIS guidelines.

"Having good political, collaborative and marketing skills [is] critical for a CSO or chief risk of-

ficer," said David Stacy, a security director at St. Jude Medical.

Also crucial is subject-matter expertise. CSOs must either have the knowledge themselves or must ensure that adequate technical expertise is available to cost-effectively deliver security services, he said.

"Anyone with solid experience in one or more of the risk areas could do the job, as long as [he is] surrounded with experienced subject-matter experts and actually listens to them," Stacy said.

'The CSO has to be able to

carry the water in the senior executive environment," said Dennis Treece, director of corporate security at the Massachusetts Port Authority. "This means communicating effectively with the CEO and the board. The CSO must know how to create and defend a budget in a constrained fiscal environment. He needs to have a résumé that garners respect and must keep that respect by being a team player, not someone who is always crying that the sky is falling.

- Jaikumar Vijayan

IBM Lures EMC Users With New Data-Migration Offering

Piper technology allows for transfers of data while systems remain online

BY LUCAS MEARIAN

IBM last week announced a data migration technology and services designed to lure EMC Corp. storage users to switch to IBM disk arrays, with the promise that corporate information can be transferred in a nondisruptive way.

IBM's migration program involves 100 consultants in its professional services business unit who have been trained to use a new device called Piper. The appliance, developed over the past year, uses built-in data migration engines to move information from rival disk arrays to IBM's products, including its Enterprise Storage Server (known as Shark) and FAStT product lines.

Piper splits the data stream from an array so information can flow to IBM's replacement storage device in addition to the existing host server. That allows data to be transferred while the system stays online, although the migration speed is slower than if the work was done off-line, said Lou Sciacchetano, worldwide vice president of competitive storage sales at IBM.

Sciacchetano said Piper can pull data from storage devices made by EMC and nine other vendors. But IBM is targeting EMC with the migration service. "There's lots of old, proprietary EMC boxes out there — 30,000 by my last count," he said.

IBM has been using Piper as part of a beta-testing program and said the migration offering has already helped it win over former EMC users like Royal Caribbean Cruises Ltd., Minnesota's Hennepin County, Insurance Services Office Inc. and the U.S. Department of Agriculture.

Bob Cosby, storage administrator at the Department of Agriculture's National Finance Center, said he completed the second phase of an ongoing migration from two oldermodel EMC Symmetrix arrays to an IBM Shark over the weekend after Thanksgiving. Cosby wanted to upgrade to newer storage technology to gain features such as snapshot copying, which allows instantaneous backups of data.

Cosby said that, with IBM's help, he transferred about 2.5TB of data between the arrays in 48 hours. "The thing I love about it is you're not spinning your own CPU cycles," he said, noting that the migration process was transparent to his applications.

According to Cosby, EMC and Hitachi Data Systems

Corp. bid against IBM for the finance center's new data storage contract. Although the rival arrays were comparable in cost, IBM undercut the competition on storage management software, he added.

EMC doesn't use an appliance similar to Piper to move data to its arrays. But Chuck Hollis, EMC's vice president of platform marketing, said the Hopkinton, Mass.-based company has offered its own non-disruptive migration technology since 1995. "We use a combination of host software and storage-based replication, coupled with a rigorous planning

methodology, to execute data migrations with a minimum of time, effort and risk," Hollis said. He added that during the past two years, EMC has migrated more than 1,000TB of IBM-stored data for 100-plus customers.

Nonetheless, Piper gives IBM a leg up on other storage vendors, said Anne MacFarland, an analyst at The Clipper Group Inc. in Wellesley, Mass. "These days, when you don't have that weekend window all the time to perform data migrations, you're going to have to do it while things are up and running," she said. • 43287

IBM'S PIPER APPLIANCE

- Has two configurations, one for migrating mainframe data and another (pictured) for transferring data from Unix, Windows and NetWare systems.
- Can move data to IBM's Shark and FAStT disk arrays, plus its externally attached 7133 Serial Disk System.
- Is designed to work with storage devices made by EMC and nine other vendors.



NetApp Signs Partnering Deals to Broaden Data Tools

Adds hardware, looks for help on life-cycle software

BY LUCAS MEARIAN

Network Appliance Inc. last week announced partnerships with Cisco Systems Inc., Veritas Software Corp. and FileNet Corp. as part of a plan to offer integrated storage systems for information life-cycle management, regulatory compliance and disk-based data backup.

In addition, NetApp introduced several products, including two new file servers and an upgraded version of its NearStore disk array for secondary storage.

The Sunnyvale, Calif.-based company also upgraded an appliance that provides networkattached storage (NAS) fileserving capabilities to storagearea networks (SAN), using disk arrays from other vendors for back-end storage (see box).

Regarding its partnerships, NetApp said it's qualifying its storage devices for use with Cisco's MDS 9000 family of multiprotocol SAN directors and switches. NetApp also plans to resell the switches and directors, starting with Cisco's MDS 9100 series fabric switches. Those devices will be available within 45 days, the company said.

To boost its bid to piece together a more complete set of tools for automatically controlling data throughout its entire life cycle, NetApp also will resell FileNet's content management software and Veritas' storage and data management products.

Carolyn DiCenzo, an analyst

at Gartner Inc., said NetApp in June made a storage management application programming interface available for use by other vendors and is

PRODUCT DETAILS

NetApp's New Storage Devices

FAS980: Supports both file- and block-level data and scales to 32TB of capacity, or 64TB in a clustered configuration.

GFILER: Enhanced version of file-server engine for integrating NAS and SAN capabilities, with new support for IBM's Shark disk arrays.

NEARSTORE R200: Upgraded secondary-storage disk array that scales to 96TB and works with enhanced data management software.

now trying to use the API to expand its sales.

The deal with FileNet lets NetApp offer FileNet's Image Manager, Content Manager and Records Manager applications. Meanwhile, NetApp will integrate Veritas' Data Lifecycle Manager and NetBackup software with its products.

According to NetApp officials, the addition of Data Lifecycle Manager will enable storage managers to do policybased migration and archiving of data between NetApp's devices and a mix of servers. NetBackup will let users send backup copies of data on Microsoft Exchange servers and file systems running on Windows, Unix and Linux hosts to NearStore arrays, said Rich Boberg, NetApp's senior director of technology partnering.

"Sixty percent of our cus-

tomer base uses Veritas for tape-based backup," Boberg said. "Having this as a seamless transition for them to go from tape to disk backup is a huge advantage for them."

Randy Kerns, an analyst at Evaluator Group Inc. in Greenwood Village, Colo., said the information life-cycle management plans pit NetApp against storage rival EMC Corp. in a new way. EMC has become a competitor to both Mountain View, Calif.-based Veritas and Costa Mesa, Calif.-based FileNet through recent deals to acquire software vendors Legato Systems Inc. and Documentum Inc.

The alliances make sense from that standpoint, Kerns said. But he added that Net-App is "not planning on hecoming a storage management software company. They're providing capabilities for the companies already in that space." • 43323

BRIEFS

IBM Shifts Focus On Software Sales

IBM said it's reorganizing and retraining the sales force in its \$13.1 billion software group to increase the unit's focus on industry-specific sets of products. More than half of IBM's 13,000 software sales workers will be assigned to vertical industries over the next 12 months. IBM will also shift its marketing and development to emphasize application packages involving its five major software product lines.

Sun Ends Talks Over Java Deal . . .

Sun Microsystems Inc. said it has ended negotiations over a deal to merge its NetBeans Java development framework with the open-source Eclipse technology backed by IBM. Sun said it withdrew from the talks because the company wasn't offered "an equitable share in mutual development." IBM declined to comment.

... And Rolls Out Blades, Software

In other Sun news, the company announced a series of products at its European SunNetwork conference, including a blade server offering that supports devices based on both its UltraSparc processors and Intel Corp.'s x86 chips. Sun also released server and desktop software bundles with per-employee pricing it detailed in September [QuickLink 41523].

Linux Kernel Flaw Blamed for Attack

The developers of the opensource Debian Linux software said a recent intrusion into four of its servers was enabled by a ilaw in the Linux 2.4 kernel. The vulnerability affects versions of the kernel prior to Linux 2.4.23. Patches were posted by Red Hat Inc. and other Linux developers. MARK HALL • ON THE MARK

SonicWall Boomed at The Comdex Show ...

... says marketing VP Douglas Brockett, who acknowledged that his experiences might be contrary to those of other companies reported in this paper and elsewhere. Even given his satisfaction, he's not sure whether the venerable trade show, or any general technology trade show for that matter, will make it into his marketing budget in 2004 and beyond. "IT experts will get their less-technical information on the Web," Brockett argues. But you won't just travel in the virtual world; he

thinks you'll be heading to smaller, targeted conferences, "where like-minded people will discuss matters of common interest in detail." Brockett claims the small but steady stream of Comdexers who visited SonicWall Inc.'s booth were attracted by the low-cost TZW line of secure wireless network units that fits well into remote-office operations and will be upgraded to 802.11g next year. The fact that the Sunnyvale, Calif.-based company resells its Pro 3060 and Pro 4060 virtual

private network concentrators to Cisco Systems Inc. probably gave corporate IT booth visitors warm fuzzies as well.

They also undoubtedly liked hearing about the 2004 firmware upgrades to the Pro line that will let them handle a mix of Secure Sockets Layer (SSL) and IPsec traffic, cutting down on the number of systems to manage while giving users the levels of se-

cure access they need for the applications they want to use. If you really want secure communications, go fax. "Faxes are traceable, hackproof and virusproof," claims Mark Malone, senior product manager for Captaris Inc.'s RightFax family. The company's products link into application workflows, from supply chains to law-office operations. In the RightFax world, pages are sent electronically to PC desktops or fax printers, Malone says, so there's more flexibility and control about who

sees what and when. He boasts that RightFax has a good chunk of market share already, yet the client/server product will be overhauled by the third quarter of next year. The software is being redesigned using .Net and will swap out its proprietary Raima database for either Microsoft SQL Server or MySQL. But users won't have to wait that long to see

will have improved support for Notes and Exchange, and a couple of months later, Version 9.0 will include antispam features. If you're in the health care market, you have to wait only until next month to get HIPAA privacy features. That means lab techs can see only the patient data that's relevant to them and administrators can access even less. Less is more for the developers at Scapa Technologies Ltd. in Edinburgh. Scapa is a major contributor to Hyades, the monitoring and testing project for the open-source Eclipse framework. CEO Michael Norman says that by leveraging Hyades inside Eclipse, his team will have to crank out only 20% of the code needed to deliver plug-in tools for software writers. Granted, the 80% delivered by the open-source community is the relatively easy infrastructure part. Still, it means Scapa's plug-ins will get to market faster, like the Jan. 1 release of Scapa StressTest-Express. Designed for e-commerce applications, the testing tool can simulate an unlimited number of users running an application through its paces, banging on everything from SSL to database access. Norman expects Scapa to eventually deliver testing tools for Web-based applications using SAP and, he hopes, Oracle. ■ Eclipse is being spearheaded by IBM, which sees the development framework as an alternative to Microsoft Corp.'s .Net. But Eclipse's rising popularity means IBM will need to relinguish control of the project. Already at 60 IT vendor members and growing monthly, "it needs to break away from the mother ship," Norman says. He predicts the next executive director of Eclipse won't be from IBM. Once that happens, expect to see the likes of Oracle Corp. and Sun Microsystems Inc. jump on board. Microsoft, too? Not in your wildest dreams. • 43310

other changes. In February, Release 8.7

A Path to Better Apps

Candle Corp. in El Segundo, Calif., tomorrow will release six packages for J2EE or WebSphere-based application integration projects. As part of the PathWAI line of services and tools, Candle will offer four new consulting services for developers – two for J2EE and two for application integration work. Not to mention a Workbench tool set designed to improve application scalability and performance.

CA Offers New Option for Web Services Management

BY CAROL SLIWA

Companies that have reached the stage where they need to manage Web services have typically had to turn to small, specialty vendors for assistance. But they will get a new option today when Computer Associates International Inc. releases the latest addition to its Unicenter product line.

Unicenter Web Services Distributed Management (WSDM) can be embedded into both Java- and .Net-based application servers to natively observe XML traffic in real time, according to Marc Camm, a director of business development at CA. He said the approach will give users a betterperforming option than the agent- and proxy-based products in the market provide.

"Each application server has its own SOAP stack, and we live at that level," Camm said. He said the Unicenter WSDM leverages a company's existing infrastructure and needs to be installed at only one of the endpoints of the Web services application. "There's no need for a new logical or physical tier," he said.

Nick Gall, an analyst at Meta Group Inc., said he has seen little user demand for Web services management products to date. He estimated that he has spoken with no more than 20 clients that have enough Web services in production to warrant management tools.

But Gall said the CA announcement is noteworthy because a major vendor is finally shipping a product in the Web services management market, even though it's just a 1.0 release. He added that the product will eventually comply with standards being developed through the Organization for the Advancement of Structured Information Standards in Billerica, Mass.

CA said its latest Unicenter offering is part of a collection of products that will enable end-to-end management of a Web services environment.

Pricing for Unicenter WSDM starts at \$25,000 per server. The product can be embedded into application servers from BEA Systems Inc., IBM, Microsoft Corp., The JBoss Group LLC and Sun Microsystems Inc. • 43335

Find Out the Secrets of Real-time Infrastructure!

Just mail or fax this completed coupon or contact APC to: -View the Deloitte case study video and download white papers relevant to the topic of real-time Infrastructure.



http://promo.apc.com

Key Code o183y

(888) 289-APCC x2995 • FAX: (401) 788-2797



FREE White papers!

Find Out the Secrets of Real-time Infrastructure!

YES! Please send me my FREE white papers - and the FREE Deloitte case study video. NO, I'm not interested at this time, but please add me to your mailing list.

State: Country:

Yes! Send me more information via e-mail and sign me up for APC PowerNews e-mail newsletter. Key Code 0183y

What type of availability solution do you need?

□ UPS: 0-16kVA (Single-phase) □ UPS: 10-80kVA (3-phase AC) □ UPS: 80+ kVA (3-phase AC) □ DC Power

□ Network Enclosures and Racks □ Precision Air Conditioning □ Monitoring and Management

□ Cables/Wires □ Mobile Protection □ Surge Protection □ UPS Upgrade □ Don't know

Purchase timeframe? □ < 1 Month □ 1-3 Months □ 3-12 Months □ 1 Yr. Plus □ Don't know

You are (check 1): □ Home/Home Office □ Business (<1000 employees) □ Large Corp. (>1000 employees)

□ Gov't, Education, Public Org. □ APC Sellers & Partners



BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 36 WEST KINGSTON RI

POSTAGE WILL BE PAID BY ADDRESSEE

APC

ATTENTION CRC: 0183y
Department: B
132 FAIRGROUNDS ROAD
PO BOX 278
WEST KINGSTON RI 02892-9920

Illimobili obblioobili bidabili obbliobili o

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

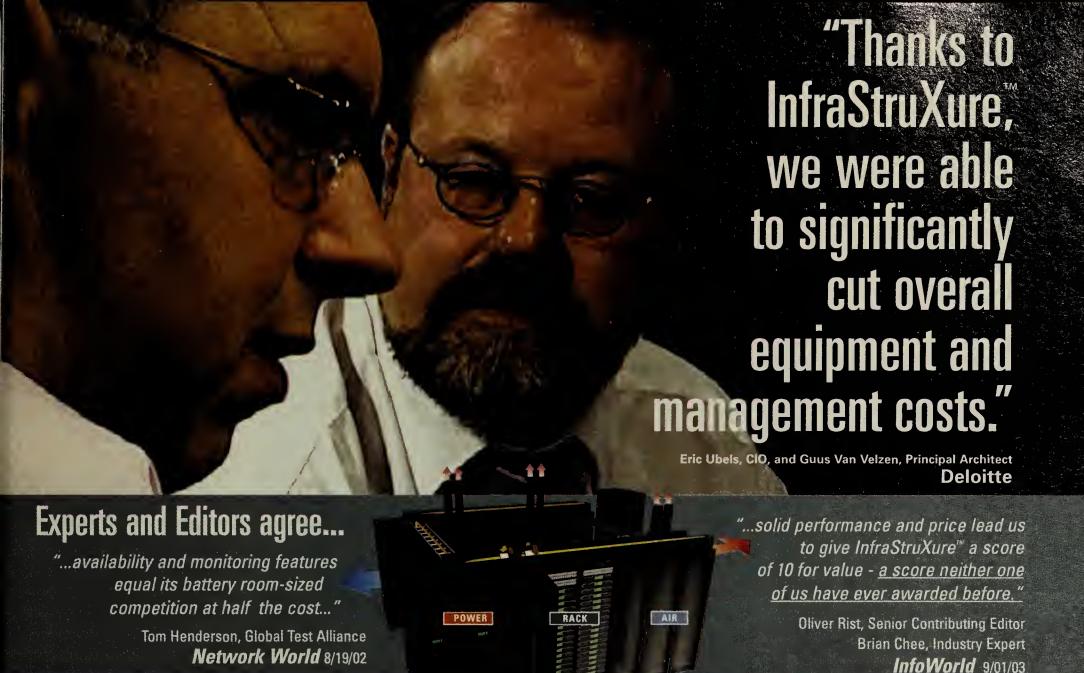
How to Contact APC

Call: (888) 289-APCC use the extension on the reverse side

Fax: (401) 788-2797

Visit: http://promo.apc.com use the key code on the reverse side





Deloitte is only one of the latest partners benefiting from InfraStruXure's open, adaptable, and integrated approach to data center design.

The industry's only patent-pending, network-critical physical infrastructure (NCPI), InfraStruXure significantly decreases the total cost of ownership through:

Accelerated Speed of Deployment

Electrical/physical modularity allows for rapid installation with minimal engineering.

Minimized Human Error

Simplicity of design and intelligent modules increase system availability by mitigating human error - the #1 cause of downtime.

Quick Fault Recovery

Compartmentalize potential failures with intelligent, maintainable modules.

Modularity for Ease of Growth

Pay as you grow and redeploy modular components as needed.

Find out how you can benefit from InfraStruXure's innovative architecture. Visit us today at **www.apc.com**.

Deloitte on InfraStruXure™ AIR

"APC had the plan of building air conditioning systems in the rack. In a traditional data center, you always have racks which are totally filled with CPUs and which become very hot. Then you have racks which are not deployed at all. To manage the energy, the warmth and the consumption of electricity in those racks, we believe that with APC we have found the right solution."

Deloitte on InfraStruXure™ Benefits

InfraStru ure ure

Open, adaptable and integrated

architecture for on-demand network-critical physical infrastructure

"We have also enhanced our security, systems stability optimization, time to market and office operations.

With InfraStruXure™,

you can get it right in one attempt."

Find Out the Secrets of Real-time Infrastructure!

View the Deloitte case study video.

Download white papers of your choice on optimal real-time infrastructure.

Visit http://promo.apc.com Enter Key Code o183y Call 888-289-APCC x2995 Fax 401-788-2797



DOD, Corporate RFID Backers Seek Standard

Pentagon official says two sides are close to deal on common specifications

BY BOB BREWIN

KEY PENTAGON supply chain official last week said the U.S. Department of Defense is working with EPCglobal Inc. to develop radio frequency identification (RFID) standards that could satisfy the needs of both corporate and military users.

Alan Estevez, assistant deputy undersecretary of Defense for supply chain integration, said during a press briefing that the standards process is complex. But Estevez added that he thinks the DOD and Boston-based EPCglobal can agree on common standards "in a matter of months."

The possibility that suppliers would have to support two sets of RFID standards arose in October, after the DOD mandated the use of RFID tags on shipping pallets and crates starting in early 2005 - a deadline similar to one that Wal-Mart Stores Inc. has set for its top suppliers.

EPC vs. ISO

Wal-Mart and other corporate users plan to adopt the electronic product code (EPC) standards being developed by EPCglobal. But the Pentagon said the tags its suppliers use will have to conform to specifications from the International Standards Organization [QuickLink 42347].

The DOD and EPCglobal are now cooperating to devise a set of standards that could be incorporated into the ISO's work, according to Estevez.

He added that the passive RFID devices Wal-Mart wants to use in its supply chain should accommodate most of the DOD's requirements, although military officials are seeking a data storage capacity that's larger than the 96-bit

limit supported by existing commercial tags.

The expanded capacity is needed to support the unique identification numbers that the DOD assigns to "high-value" goods that cost more than \$5,000, Estevez said. The tags used by the military will also have to be capable of handling multiple reads and writes of data, he added.

Mike Liard, an analyst at Natick, Mass.-based Venture Development Corp., said blending EPCglobal's standards into the ISO's specifications would alleviate the added costs that suppliers say they will face if the DOD and Wal-Mart support different approaches.

In addition, both Wal-Mart and the Pentagon could reap economic gains from using the so-called Class 1, Version 2 tag envisioned by EPCglobal, Liard said. That's because Texas Instruments Inc. and Royal Philips Electronics NV are both gearing up to produce the new devices in large quantities, which is expected to result in lower costs compared with existing RFID tags.

Estevez declined to say how much it will likely cost the DOD to install the IT infrastructure needed to support RFID in its supply chain, including the addition of RFID readers in warehouses

Rollout Plans

DEFENSE DEPARTMENT

- Will start in January 2005 with its top 100 suppliers; expects all suppliers to adopt RFID by the start of 2006
- Initial deployments planned at Texas distribution centers serving about 150 stores

and supply depots.

In a presentation at the RFID meeting, Estevez said the Pentagon wants to get its top 100 suppliers on board with RFID tags by the start of 2005 and add another 400 companies by the middle of that year. All suppliers should

Wants its top 100 suppliers to begin using RFID in January 2005 and its top 500 to do so by July of that year

is mandating that all its suppliers use the technology by January 2006

uary 2006, he added.

begin using the devices by Jan-

Some attendees at the RFID

meeting described it as more

collaborative than a similar

event Wal-Mart held for its

suppliers last month. But

Estevez said the DOD has "drawn a line in the sand"

He acknowledged that it's unrealistic to expect all of the military's 43,000 suppliers to begin using RFID tags by January 2005. Estevez's statement came one day after the DOD disclosed more details about its RFID plans to key suppliers at a meeting in Fairfax, Va.

on the use of RFID tags. "It's going to be in every

IN NEXT WEEK'S ISSUE

Smart Tags. High Costs: Read about the ROI challenges RFID users face. **COMING DECEMBER 15**

Users Benefit From Business Performance Tools but Say Rollouts Pose Challenges

Software supports planning, tracks financial targets

BY MARC L. SONGINI

Companies can improve their internal operations and slash costs through the use of business performance management (BPM) tools, according to attendees at a conference on the technology. But there are considerable challenges to be surmounted, they warned.

BPM projects involve the use of business intelligence software, such as balanced scorecard or analytic applications, to help executives prepare plans and analyze corporate performance via a dashboard-style user interface.

The need for CEOs and chief financial officers to comply with the accounting and reporting mandates of the Sarbanes-Oxley Act has given the BPM market a boost, said

Craig Schiff, CEO of BPM Partners Inc. The Stamford, Connbased consulting firm co-sponsored last week's Performance Management Conference with the Digital Consulting Institute in Andover, Mass.

A BPM system can deliver a holistic view of business performance, allowing executives to identify revenue and cost savings opportunities, Schiff said. But software costs can range from \$75,000 to more than \$500,000, he added.

And setting up BPM processes can be difficult, accord-

NEW DEVELOPMENTS

Geac announced a set of BPM tools that combines software it bought in two acquisitions this year. Available now.

BPM Partners said it's developing dashboard-style user interfaces tailored for different industries, with prebuilt charts, graphs and performance gauges. **Due next month.** ing to a half-dozen users.

'The biggest challenge, and I don't care what kind of consultant you get or what you do, [is that] you truly have to understand what drives your business," said Celia Spitz, vice president of planning and analysis at Miami-based Vitas Healthcare Corp., which provides hospice services.

IT and business managers who are implementing BPM systems must decide "what the critical bits of information are that make a difference in a business," Spitz noted, "If you don't, it's just regurgitating data for 'analysis paralysis' and doesn't tell you anything."

Vitas Healthcare uses a homegrown executive dashboard that's connected to online analytical processing software developed by Applix Inc. in Westboro, Mass. Spitz said the BPM system has helped the company reduce its automileage and overtime costs.

RSA Security Inc. uses soft-

ware that was developed by Comshare Inc., which is now part of Markham, Ontariobased Geac Computer Corp., to measure whether financial targets are met. The software has paid for itself, said David Stack, manager of corporate financial planning and analysis at RSA, a security software vendor in Bedford, Mass.

But Stack added that measuring how much of a return on investment RSA is getting is hard because many of the performance improvements made possible by the BPM system are qualitative.

For Viasys Healthcare Inc., the toughest part of its BPM rollout was ensuring that end users employed the system, because its blueprint validates the accuracy and consistency of data, said Matt Gualtieri, finance project manager at the medical products maker in Conshohocken, Pa.

But the hard work has paid off, Gualtieri added. "I think the pain and effort of going through implementing a system like this is worth it, because it forces you to do things better." O 43334



Hyper-Security.

Hyper-Threading Technology from Intel. Why choose between PC security and PC performance? The Intel® Pentium® 4 **Processor with HT Technology is** engineered to let PCs do two things at once - without the frustrating lags* So you can run a background virus scan as you get some real work done. Get all the details at intel.com/go/ht.



BRIEFS

3Com, EDS Agree On Reseller Deal

Continuing an effort to revitalize its enterprise networking sales, 3Com Corp. announced a deal for Electronic Data Systems Corp. to resell its routers, switches and voice products. The global agreement is 3Com's first with a top-level IT services provider. But EDS said the deal isn't as comprehensive as an existing one it has with 3Com rival Cisco Systems Inc.

Canadian Railway Hands IT to IBM

Canadian Pacific Railway Ltd. said it has signed a seven-year, \$154 million (U.S.) outsourcing deal with IBM Canada Ltd., which will manage the Calgary, Alberta-based railroad company's IT infrastructure. About 100 IT workers at Canadian Pacific Railway are being transferred to the IBM subsidiary along with data centers in Calgary and Toronto.

CGI Signs Two Outsourcing Pacts

Montreal-based CGI Group Inc. announced a pair of IT outsourcing contracts. CGI said it will manage all IT operations at Alcan Inc.'s Rolled Products North America division in Cleveland as part of a 10-year, \$113 million deal. In addition, CGI has signed a 10-year, \$167 million contract with The Robert Plan Corp., a Bethpage, N.Y.-based auto insurer.

Hong Kong Firm Is Top Pivotal Bidder

Pivotal Corp., a CRM software vendor in Vancouver, British Columbia, said a unit of Hong Kongbased Chinadotcom Corp. has topped two other buyout bidders with a \$52 million offer. Pivotal last month agreed to sell itself to an investment firm that wanted to merge the company with Talisma Corp. in Kirkland, Wash. But the investment firm last week said it's raleasing Pivotal from that deal.

Las Vegas Schools Mix IP, Digital Communications

\$31M project includes new backbone network, plus 27,000 dual-mode phones

BY MATT HAMBLEN

he public schools in Las Vegas are nearing the midpoint of a backbone network installation that will support one of the largest IP-enabled phone systems deployed worldwide— a communications upgrade that's expected to cost a total of \$31 million.

By early January, half of the 289 schools in the Clark County School District will be connected to an IP-based metropolitan-area network based on Alcatel SA's OmniPCX Enterprise technology, said Philip Brody, the school system's chief technology officer. The MAN rollout is budgeted at \$15 million and should be completed next November.

Clark County, the nation's sixth-largest school district, is spending an additional \$16 million to outfit its offices and every classroom with about 27,000 Alcatel phone sets that can operate in both digital and IP modes. About 5,000 phones have been installed, and Brody said that project will take another two years to finish.

Explosive Growth

The MAN and the dual-mode phone system are designed to to support the school system's explosive growth. The district, which serves 268,000 students and has 30,000 workers, is adding new schools at the rate of one per month.

"This is a crazy place, not just because it's Vegas, but this is also an incredible juggernaut of education and technology," Brody said.

MORE NEWS

Avaya is announcing an upgrade of its IP telephony software, plus a series of new hardware devices and phones:

QuickLink 43364 www.computerworld.com The phones will be used primarily in digital mode in order to take advantage of digital wiring that was recently installed in two-thirds of Clark County's schools. But some of the phones will be IP-based, Brody said. In addition, the fiber-optic links and Gigabit Ethernet switches being built into the MAN support IP.

The hybrid plan was recommended by a consulting firm three years ago, Brody said. St. Louis-based Dietrich Lockard Group Inc. said the school district could save \$2 million per

year by installing a converged voice and data network.

Another advantage of an IP-enabled system is that teachers will be able to make emergency calls from their classrooms, but incoming calls can be routed elsewhere to avoid class-time interruptions. "We never had a public meeting about this project where the need to have a 'do

not disturb' feature didn't come up," Brody said.

To protect against potential network failures, every building will retain one line to the circuit-switched public telephone system, he added.

Paris-based Alcatel's networking hardware and software was sold to Clark County by Verizon Communications in New York. Verizon has also provided project management and installation support, according to Brody.

Elizabeth Herrel, an analyst at Forrester Research Inc. in Cambridge, Mass., said the predictions of millions of dollars in annual savings are realistic because the new system will require less switching hardware at each location. "IP telephony is a practical solu-

tion, especially in places such as schools or banks where there are many offices, classrooms and branches," Herrel said. • 43301



Start-up Aims Software at Design of Data Center Racks

Web-based tool creates drawings, measures IT needs

BY MATT HAMBLEN

Software start-up Visual Network Design Inc. this week plans to launch its first product, a Web-based tool for creating drawings and reports that can help streamline the process of designing racks for networking and storage devices.

The product, called Rack-wise, is aimed at systems integrators and corporate IT staffers who plan and configure the racks that hold switches, server blades, cables and other equipment. A proprietary database uses drawings created by Rackwise to calculate power, air-cooling and space requirements, said Emmett DeMoss, CEO of Visual Network in Burlingame, Calif.

Jasmine Noel, an analyst at Ptak, Noel and Associates in Cambridge, Mass., said Cisco Systems Inc. and other big networking vendors sell configuration tools for their own products. "But the minute you mix and match hardware, they're useless," she noted.

Both Noel and John Madden, an analyst at Boston-based Summit Strategies Inc., said Rackwise could be helpful as large corporate users begin reorganizing their IT architectures around the concepts of dynamic computing, virtualization and policybased management.

At companies that adopt so-called adaptive business processes, systems managers will need automated tools to help them quickly rewire and

A Web-based, cross-platform tool for designing and configuring the system racks that hold networking devices and other data center equipment

user license

reconfigure systems, they said.

Chris Shoop, the top executive at systems integrator
Conexus Technologies LLC in
West Chester, Ohio, has used
Rackwise since May and
hopes to become a reseller of
the software. Shoop said he
uses the technology to help
"describe what the end deliverable will look like" when
Conexus is configuring system
setups for clients.

Shoop said Rackwise has also accelerated the design process, reducing jobs that took three hours with some computer-aided design tools to as little as five minutes.

"Designing systems is typically a hairy process and not well planned," he said. "Projects tend to happen pretty quickly, with the end users ordering a bunch of software and hardware and as an afterthought realizing they need to connect it to more power or slam it all in a rack."

But Shoop said one feature that he hopes to see in future versions of Rackwise is support for planning and designing a series of racks within a larger system. Visual Network plans to do so in the next revision, DeMoss said. 43309

The

NOW EVEN EXECUTIVE CANBACK UP

ware company.

The new NetBackup 5 automatically protects personal PC documents. Zero effort means greater user compliance, less legal exposure and no lost data. veritas.com

VER**İ**TAS[™]

PeopleSoft to Change Fees For J.D. Edwards Products

Goal is to unify pricing model for ERP applications from both vendors

BY STACY COWLEY

year, PeopleSoft Inc.
will unify the pricing
models for its Enterprise software line and the EnterpriseOne line built around
the applications it picked up
through its August acquisition
of J.D. Edwards & Co. — a
change that will alter the licensing structure J.D. Edwards
customers are accustomed to.

After the J.D. Edwards acquisition, Pleasanton, Calif.-based PeopleSoft formed three product lines: Enterprise, a portfolio containing its traditional applications; EnterpriseOne, a rebranded suite of J.D. Edwards applications; and World, the portfolio for J.D. Edwards' legacy AS/400 World software. Rather than mingling code bases, People-Soft plans to indefinitely maintain the three brands.

Melding Models

PeopleSoft and J.D. Edwards had different pricing strategies, however. PeopleSoft uses what it calls a "valuebased pricing" model, in which its software has no list prices. Fees are calculated based on a number of factors, including a customer's size, industry and annual revenue. The licenses usually cover an unlimited number of users. J.D. Edwards had a more traditional per-user licensing model for its applications and modules.

"We've been doing a lot of work to roll out a single pricing model next year. We're moving more toward the PeopleSoft model," said Les Wyatt, a former J.D. Edwards executive who now serves as general manager of PeopleSoft's EnterpriseOne line.

The change will affect only Enterprise and EnterpriseOne customers. World, for which additional licenses are sold almost entirely into the existing base of about 3,400 customers, will continue to be priced on a per-user basis. EnterpriseOne also has about 3,400 customers.

The change will affect EnterpriseOne customers as they license new modules from either the EnterpriseOne or Enterprise product lines. Maintenance fees for EnterpriseOne will also likely rise, Wyatt said, though he noted that J.D. Edwards had been raising its maintenance charges steadily

throughout the past three years. Details of the pricing changes are still being worked out, he said.

"One of the things we don't want to do is move to a model that arbitrarily and dramatically increases our prices," Wyatt said. "Our users will be paying roughly the same amount."

Not Convinced

One EnterpriseOne customer said he's keeping a wary eye on PeopleSoft's licensing plans. Manufacturing company Consolidated Container Co. in Atlanta has about 400 employees in several facilities using EnterpriseOne applications. Vice President of IT

Andrew Ziegele said People-Soft's sales team approached him last month about moving to a new licensing plan that would give him an unlimited number of user licenses.

But Ziegele has no pressing need for more user seats, and the cost of the proposed new plan was around \$400,000. "That's pretty much like relicensing the whole thing," he said. "I'm concerned about the licensing. I can see why there's some confusion."

PeopleSoft indicated to Ziegele that any licensing changes to his contract would be optional, so he won't be forced into an expensive reinvestment to maintain his current software configuration. Ziegele is considering picking up several new modules, though, and said he isn't sure how expensive those additions would be.

PeopleSoft's pricing plans

l'm concerned about the licensing. I can see why there's some confusion.

ANDREW ZIEGELE, VICE PRESIDENT OF IT, CONSOLIDATED CONTAINER CO.

will be finalized and implemented in the first quarter of 2004, most likely in January, Wyatt said.

At the same time, People-Soft plans to unify its sales force with that of J.D. Edwards, which has remained separate since its acquisition. Sales executives will specialize by region and industry, but every sales employee will be able to sell every PeopleSoft product, Wyatt said. • 43343

Cowley writes for the IDG News Service.

Patch Management Options Grow in Wake of Blaster Worm

LANDesk, other vendors rush to meet demand for automated patching tools

BY JAIKUMAR VIJAYAN

This summer's Blaster worm was one of the first pieces of malicious code to spread itself by means of network-connected PCs. And the worm highlighted the need for more efficient patching processes in many companies.

Since then, several vendors have announced automated management products designed to help companies quickly test patches, identify



systems that need them and automatically update those systems.

This week, South Jordan, Utah-based LANDesk Software Corp. will join the fray with the shipment of LANDesk Patch Manager for automated vulnerability assessment and patch distribution. The software is designed to give administrators a centralized view of the patch status of systems on their networks, identify specific vulnerabilities, test and deploy the patches, and then audit them as needed.

Other vendors marketing similar products include Shavlik Technologies LLC in Roseville, Minn., St. Bernard Software Inc. in San Diego, and PatchLink Corp. in Scottsdale, Ariz.

Raymond James Financial Inc., a financial services firm

in St. Petersburg, Fla., has been beta-testing LANDesk's new patch management software for the past few months and is preparing to roll it out to 10,000 systems on its network.

The company has been using another LANDesk software tool to distribute patches companywide for several years. But LANDesk's new patch management function will give the company a bet-

ter view of the systems that need to be patched and speed up the process of deploying the patches, said Andy Nosal, a supervisor of LANDesk operations at Raymond James.

"I like the ease of being able to find out what patches are on what systems and seeing all the affected machines" that need patching, Nosal said.

Stamford, Conn.-based Pitney Bowes Inc., meanwhile, is deploying similar patch management technology from Emeryville, Calif.-based BigFix Inc. to 22,000 client systems.

The tool will not only help Pitney Bowes deploy patches much faster, but it will also help the company enforce tough new security policies related to network-connected desktops, notebooks and other client devices, said David Giambruno, the company's director of strategy and security.

Since BigFix's software allows Pitney Bowes to monitor

the patch status and virus signatures on every client device, the technology has enabled the company to quickly identify improperly config-

ured systems and either block network access to those systems or take remedial action, Giambruno said.

The client-level impact of Blaster forced a "fundamental change in our thinking," he said. Whereas before the focus had largely been on protecting the server environment, the current emphasis is also on ensuring that client systems don't compromise security, Giambruno added. • 43337



PRIMEPOWER servers. Designed for the business that never stops.

Outstanding availability and highly rated service and support mean your business will be up and running. These days, availability, performance, and reliability are everything. As you look to improve enterprise uptime and increase service levels, you need to demonstrate measurable short-term return on investment. Enter the Fujitsu® PRIMEPOWER™ line of Solaris™-compatible servers. From single CPU, rack-mounted servers to enterprise-ready systems that scale to 128 CPUs in data center applications, we've got you covered. With superb reliability, industry-leading performance, and service that wins customer praise, PRIMEPOWER servers can dramatically boost the efficiency of your business. See why so many successful companies trust their businesses to the infinite power of Fujitsu. Get your copy of our FREE white paper, Experiences of Enterprise Customers, at www.computers.us.fujitsu.com/ad/primepower or call (877) 905-3644.



THE POSSIBILITIES ARE INFINITE

Continued from page 1

Cybersecurity

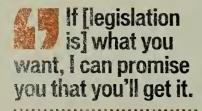
That commitment has come under increased scrutiny during the past year, as various studies and independent commissions have concluded that market forces alone haven't been sufficient to yield needed improvements in security.

At a summit news conference, Robert Liscouski, assistant secretary for infrastructure protection at the Department of Homeland Security, and Amit Yoran, the newly appointed chief of the DHS's National Cyber Security Division, were grilled by reporters about the wisdom of the government's nonregulatory approach to working with the private sector. Both Liscouski and Yoran said increased government regulation remains a possibility should the private sector fail to live up to its security responsibilities.

"The private sector owns the problem," said Liscouski. "There are a lot of people out there who are willing to legislate. If that's what you want, I can promise you that you'll get it." But he added that the Bush administration doesn't think that better security can be legislated or forced on the private sector by the government.

Yoran, making one of his first major policy speeches as director of the NCSD, asked the private-sector executives present — only eight of whom were from nonvendor companies — if they were satisfied with the current level of progress in cybersecurity. "I hope that you are not," said Yoran. "We are a nation at war."

In an interview with Computerworld, Yoran acknowledged the absence of user companies, such as utilities, natural gas companies, banks



ROBERT LISCOUSKI, DEPARTMENT OF HOMELAND SECURITY

IT Security Pros Confident of Defenses

Despite a significant increase in the number of reported security incidents over the past year, a survey released last week by two industry groups reveals a high level of confidence on the part of

IT security professionals.

As of the third quarter of 2003, public and private-sector organizations reported 114,855 incidents to the CERT Coordination Center in Pittsburgh. That's an increase of 40% over last year, according to the survey by the Business Software Alliance (BSA) and the Information Systems Security Association (ISSA).

The survey results indicate that the increase hasn't dampened the confidence of many security administrators, but whether that accurately reflects the views of corporate security personnel is unclear. Of the 1,716 ISSA members surveyed, 70% were from government agencies or IT vendor and services firms; only 30% were corporate users.

Released the same day that senior officials from the Department of Homeland Security warned that unwanted regulation would be the likely result if the private sector doesn't take ownership of cybersecurity, the independent survey found that three out of four IT security administrators consider their companies to be prepared to defend against a major cyberattack. Eighty-seven percent said patches for known vulnerabilities are up to date at their companies.

In addition, three out of four re-

spondents said recent reports of software vulnerabilities have prompted their companies to strengthen their capabilities to respond to attacks. Seventy-seven percent said they have a formal security program in place, and a whopping 96% of those respondents said their programs have senior management

sponsorship and approval.

Robert Holleyman, president of the BSA, said that while the survey shows progress is being made, "enormous challenges" remain, particularly in employee training and security funding at small and midsize businesses.

- Dan Verton

Technologies currently deployed or planned over the next 12 months

	DEPLOYED	PLANNED
Antivirus	99%	0%
Firewalls	97%	1%
■ E-mail filtering	74%	10%
Intrusion-detection systems	62%	12%
E-mail attachment blocking	62%	3%
■ Web site blocking	59%	5 %
■ Vulnerability scanners	43%	18%
■ Encrypted e-mail	31%	15%

SOURCE: ISSA/BSA SURVEY OF 1,716 IT SECURITY PROFESSIONALS

and transportation firms, at the summit's debut. But he said the focus was to get technology providers moving on the problem.

said Sally McD nior executive DHS's outreach Meanwhile, in rectly to a Committee Committe

A summit focused on infrastructure owners and operators is scheduled for next month, said Sally McDonald, the senior executive in charge of the DHS's outreach program.

Meanwhile, referring indirectly to a Computerworld report last week in which some industry executives criticized the role of powerful IT industry lobbying groups [Quick-Link 43189], Harris Miller, president of the Arlington, Va.based Information Technology Association of America, said those comments were erroneous and that the ITAA and other vendor groups that cosponsored the summit have no lobbying power over the DHS.

Liscouski echoed that claim. "We're not going to let anybody who operates [a business] dodge their responsibility," he said. "This is not about mollifying industry." • 43338

Continued from page 1

Support

ter in India [QuickLink 43172]. Other major vendors, in-

Other major vendors, including IBM, Hewlett-Packard Co., Oracle Corp. and Computer Associates International Inc., last week said they don't plan to follow Dell's turnabout by reducing their reliance on global support operations.

Lori Moore, vice president of product support services at Microsoft Corp., said via e-mail that the company has never changed support locations because of user feedback, although it does get complaints "from time to time in each of our support centers." But she noted that Microsoft sets up support facilities in new countries "in a thoughtful and deliberate manner. We don't rush into other markets."

For example, Microsoft two months ago launched a pilot program to support some of its products from a site in Bangalore, India. However, Moore said it plans to take a "very selective" approach on the pilot project. No companies with Premier Support contracts are being supported from the new facility, she added.

Despite its pullback, Dell indicated that it might eventually shift PC support back to India. Glenn Bonner, CIO at Dell user MGM Mirage in Las Vegas, said providing technical support from offshore locations "really doesn't matter as long as the quality of service is the same and there is not a language barrier." If Dell can successfully serve users from India, "it'll just serve to reduce Dell's cost and ultimately give savings back to us," he added.

Tom Iannotti, vice president of business development at HP, said it doesn't make sense for vendors to continually chase around the world for the lowest labor costs. That requires constant training of workers, not only in the technical aspects of product support, but in English-language skills as well, he said.

IBM doesn't have any help desk operations in India, but it does handle support calls from a global network of facilities in Atlanta, Toronto, Scotland, Australia and China, according to a company spokesman. IBM isn't among the vendors that "pride themselves on doing things cheaply," he added.

Kirkland, Wash.-based vCustomer Corp. operates a pair of technical support outsourcing centers in India with a total of about 2,500 customer service workers and 700 other em-

Offshore Tips

Users weighing purchases of products that are supported from overseas facilities should:

- Check performance metrics, such as the percentage of problems that are resolved on the first call.
- Ask to see third-party customer satisfaction surveys.
- Evaluate call center training programs and the language skills of support workers.

ployees. Sanjay Kumar, the company's CEO, defended the quality of service that his India-based support technicians provide but acknowledged that their accented English can be hard for U.S. users to understand at first.

"To the user, it's a new accent, a different one," Kumar said. However, he added that vCustomer spends "thousands of dollars" per agent on computer training and to "help neutralize the accent." (Kumar isn't related to CA's CEO, who shares the same name.)

Several analysts said they view the offshore sourcing of support as a trend that won't go away. But IDC analyst Ned May noted that the hardware success Dell has reaped through tight-fisted management of its supply chain does not necessarily translate into the more people-based support business. • 43340

Reporters Matt Hamblen, Carol Sliwa and Marc L. Songini contributed to this story.



Bank One sees a bright future with Samsung.



- up to 90° tilt for optimal ergonomics
- 1280 x 1024, Xtrawide™ 170°/170°
 viewing angle, VESA° wall-mountable base
- World's leading manufacturer of TFT-LCD displays

BANK ONE How has Bank One become a leader in banking while showing its nearly 500,000 small business clients the path to a bigger, brighter future? With unparalleled vision and absolute clarity. That's why Bank One chooses Samsung — the world's leading manufacturer of TFT-LCD displays. And now Samsung's commitment to the big picture continues with the innovative display technology found in the SyncMaster 192T, giving you the opportunity to visualize a future just as bright.

Add vision. Add possibility. Add Samsung.





If you're looking for a hit, look no further than the SDLT 600. With a thrilling bou GB capacity and of the you're looking for a hit, look no further than the SDLT 600. With a thrilling bou GB capacity and TDLT age™ 72 MB/s transfer rate*, it's the fastest super drive in the market. The SDLT 600 debuts with DLT sage™ 10 market rate*, it's the fastest super drive in the market. The SDLT 600 debuts with DLT 600 debuts with

IT Hiring Plans Vary, Despite Signs of Demand for Workers

Tech recruiters cite heightened jobs activity

BY THOMAS HOFFMAN

With the U.S. economy picking up steam, some recruiters are seeing a rise in demand for technology workers. But several IT managers who were interviewed in late November said they have a mix of hiring plans.

Following a series of hirings earlier this year, Choice Homes Inc. has as many IT staffers as it expects to need for the next six months, said Andrew Brimberry, director of information services at the Arlington, Texas-based home builder.

Choice Homes added a database administrator, a WAN technician and two help desk administrators to help support an expansion of its IT infrastructure that was fueled by revenue growth. With those jobs filled, Brimberry said he doesn't see any need to further expand his 24-person IT staff.

The hiring situation is similar at Emcor Group Inc., but for different reasons. Norwalk, Conn.-based Emcor makes electrical

and mechanical systems for commercial construction uses and offers a variety of facilities-related services. But unlike Choice Homes, which has benefited from continued strength in new housing starts, Emcor has been hurt by weakness in the commercial sector.

That's the main reason why Emcor plans "little to no growth in staff" within its IT department and has only a handful of major technology initiatives in its 2004 budget, said CIO Joseph Puglisi.

On the other hand, PRG-Schultz International Inc. plans to increase its IT staff by more than 10% next year. CIO Eric Goldfarb said the Atlanta-based company, which does auditing work to help corporate clients identify overpayments to their suppliers, will add 20 domestic and international IT workers to its current staff of 185 to support increasing customer demand.

"But I think the trend this upcoming

year is for highly specialized talent," Goldfarb added, citing PRG-Schultz's need for experienced IT professionals with ERP skills as an example.

According to New York-based Dice Inc., 72% of the 263 human resources managers and recruiters who responded to an e-mail survey in August said they planned to increase their hiring of tech workers within either three or six months. "This is a huge difference from the survey we conducted last year," said Scot Melland, president and CEO of Dice, which operates an online job board for tech workers.

The new survey didn't explore the types of positions that are in greatest

demand, nor did it assess hiring by vertical industry. But Melland said an analysis of his company's Web site shows that demand remains strong for "traditional, hard-core IT positions," such as Unix systems administrators and Oracle and SQL Server database administrators.

The industries that are doing the most hiring include aerospace and defense plus financial services, Melland added.

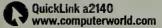
Unemployment rates remain high among IT

workers compared with historical levels. The Commission on Professionals in Science and Technology, a Washington-based nonprofit group that does research on workforce and educational issues, said in a report released in September that 6% of IT professionals were out of work. The group added that the overall number of IT jobs has declined by 150,000 from its peak of 2.5 million in 2000 [QuickLink 41519].

Conditions in the IT job market "have been very trying for the past two years, but things have picked up a lot since August," said Jim Tobin, a senior technical recruiter in the Rochester, N.Y., office of staffing services provider Manpower Inc. § 43279

ON THE JOB

For full coverage of IT workforce issues, go online to our Careers Knowledge Center:



When do you think you will increase your hiring of IT workers? Within six months 28% Within three months 44% Within 12 months 15% No plans to increase hiring BASE: 263 HR and corporate recruiting managers surveyed via e-mail in late August source: DICE INC., NEW YORK

THE NEW SDLT 600. RELIABILITY HAS NEVER BEEN FASTER. Now showing! The most advanced, highest performing

super drive in the world!

I & IVID/S

The fastest transfer rate available

600 GB*

Colossal capacity

DLISAGE.

A suite of highly intelligent management tools

PROTECTION

Backward compatible to the SDLT 320 and DLT VS160 drives



Register to win a home theater system!

Go to **DLTtape.com**.

NO PURCHASE NECESSARY. Go to OLTrape.com for official rules, Sweepstakes ends 12/31/03, Open to legal 1 -States and Canada who are 18 or older and employed as an ISAT professional. Void in Quebec.

© 2003 Quantum Corporation. All rights reserved, OPTIONS ARE A BEAUTIFUL THING. DLTtage and the and the DLTtage logo is a registered trademark of Quantum Corporation. Based on 2.1 compression





BEA, IBM Team on New Java Specs

BEA Systems Inc. and IBM, rivals in the application server software market, are teaming

up to propose three Java specifications in a bid to further the cause of application consistency and portability. The two companies published the specifications late last month and submitted them under royalty-free terms

to the Java Community
Process (JCP) organization,
which Sun Microsystems Inc.
set up to evolve its Java technology. Voting by JCP members on whether to accept the
specifications began last week,

and the results are due to be announced on Dec. 16.

Perhaps the most significant specification for corporate developers is one called Service Data Objects. SDO aims to provide a simple, unified programming model for accessing data from heterogeneous systems, including relational databases, XML-based data sources, Web services and enterprise applications.

Nick Gall, an analyst at Meta Group Inc., said many of his clients are grappling with the problem of providing uniform access to structured and unstructured data. "This has been a never-ending challenge for all application architectures," Gall said, calling it an issue for both Java and Microsoft developers.

BEA and IBM also published a pair of application programming interfaces. One is designed to let applications based on J2EE schedule work to execute concurrently, and the other supports the scheduling and receipt of timer notifications.

Allow for Feedback

Scott Dietzen, chief technology officer at BEA, noted that it can take one to two years for a Java specification to become a formal standard. But he said that by publishing the new specifications and implementing them in BEA's WebLogic and IBM's WebSphere software, the companies and other JCP members will be able to get more feedback from the marketplace.

"We clearly tried to streamline this process and help it along from an adoption standpoint," said Rod Smith, vice president of Internet emerging technologies at IBM. The specifications will be supported in WebSphere next year, according to an IBM spokeswoman.

Ted Schadler, an analyst at Forrester Research Inc., said BEA and IBM are trying to kick-start Java innovation in response to slow progress through the JCP. "I hope it works, because I think users could benefit from the pace of innovation that would happen," he said. • 43157

Strength in Numbers.



Remedy is the leader in Service Management solutions. Our numbers speak for themselves.

Yet, there are other numbers important to Remedy. Operating cost reductions, improvements in customer satisfaction, increased employee productivity, shorter time to value—the bottom-line numbers you will achieve by using Remedy's out-of-box best practice applications to automate service management processes.

Your success depends on those numbers. Remedy delivers them.

www.remedy.com/strength

or call us at 1.888.294.5757





MARYFRAN JOHNSON

Titanic Discontent

♦ DITORS ARE STICKLERS about finding the right word or turn of phrase. So I had to cringe a little at calling our recent annual ✓ Job Satisfaction Survey by its given name

[QuickLink a3810]. "Job Dissatisfaction Survey" would have been a lot closer to the truth.

Our online survey of 936 IT staffers and managers yielded a gruesome and depressing lineup of statistics, with 82% finding work more stressful, 69% saying they're not working to their full potential and 56% noting a drop in their satisfaction from a year ago.

Those results weren't all that surprising, really, when stacked up against the similarly dreary findings of our annual salary survey earlier this fall [QuickLink 41785]. That one documented shrinking pay scales, overloaded work schedules, worries about outsourcing and the continued negative impact of this industry's relentless economic doldrums.

Are your eyes glazing over yet? Mine, too. I can absorb only so much bad news in statistical form before it becomes just a stream of numerical white noise. And what's happening on the job in IT these days mirrors the situation in so many other sectors of the economy — blue collar and white collar alike — that disgruntlement feels like the status quo everywhere. More than half (51%) of the 3,278 U.S. workers surveyed last year by Spherion Corp. and Harris Interactive said they wanted to leave their current jobs.

So, who cares? Who's got the luxury of time to worry about unhappy IT staffers or chronically stressed project managers? Once the economy starts to party again, these people problems will fade away like a New Year's Day hangover, right?

Fade away is right. To other jobs at other companies, as our "Already Gone" story in this week's Manage-



star players may be planning an exodus as soon as an opportunity presents itself. erworld. You can contact

Worrying about an IT brain drain may seem pointless right now, when nobody's going anywhere fast and the most robust

ment section contends

(on page 47, and online

Up to half of your over-

worked IT managers and

at QuickLink 43001).

growth industry seems to be offshore outsourcing. But all sorts of employee surveys are issuing warnings about this hulking iceberg of discontent drifting along menacingly below the IT workplace surface, ready to strike.

Yet unlike all the other complex problems you're wrestling with, this one has two very basic, inexpensive solutions:

1. Start some candid conversations about workplace concerns within your IT group. Your ability to talk about what's on their minds could have

an enormous, positive impact on morale. "No matter how busy everyone is, you should be able to carve out just a little time to encourage discussions about what would improve conditions. Try taking small groups of staffers to lunch once a week to discuss their perspectives on how things are going," recommends Paul Glen, one of our Management columnists [QuickLink 42356] and author of Leading Geeks: How to Manage and Lead the People Who Deliver Technology.

2. Pay attention to and act upon what those conversations tell you. Can you cut back on overtime or put some lesser projects on the back burner? Can you build in more flexible work schedules or lighten workloads? "Employees understand and can handle the fact that the economy is tough," says Ed Jensen, a partner in the human performance practice at Accenture, who's been hearing firsthand about the "already gone" syndrome at IT client sites. "They want to feel part of the process and understand why decisions are being made."

Following this advice could help turn a dissatisfied crew into a more motivated one that will stay with you once the economy bounces back. Isn't it worth a shot? • 43271

NO, I HAVEN'T HEARD ABOUT ANY CHANGES IN THE ECONOMY SINCE YOU ASKED IS MINUTES AGO.

PIMM FOX Saving Bandwidth And Britney

URING A RECENT trip to the movies, I was greeted by Hollywood's not-so-subtle campaign to promote its view that video piracy is sucking money out of the pockets of stunt doubles (never mind the stars). It's only a matter of time before music moguls warn me not to steal cash from Britney Spears' favorite Cartier salesclerk.

The music industry is already waving nasty letters in the faces of colleges and universities cautioning them to curtail piracy. Luckily there's a technology solution to the problem, which technology itself created.

The technology that created the problem is high-speed Internet access,

which is available throughout the campuses of most educational institutions. Students and faculty members use the Internet for research and legitimate file sharing. There's considerable competition for the limited bandwidth. Add in less-than-legitimate downloads of music



and video, and a lot of bandwidth gets chewed up.

Jon Dodds, manager of network and tech services at Fairmont State College in Fairmont, W.Va. (7,200 students, 450 faculty members), wanted to take control of his bandwidth. In the process, he has made sure that the school does its bit to promote compliance with copyright laws. He's quick to point out this isn't about censorship; it's about using resources effectively.

His quest led him to Bakersfield, Calif.-based Lightspeed Systems Inc. His initial success with the 30-day evaluation copy of the company's bandwidth management product led

"We started by doing bandwidth prioritization between the dorms and the main campus," Dodds says.

During business hours, campus connections have priority over dorm use, and Dodds can filter out certain IP ad-

Join Us to Map the Future of IT

Strategic problem-solving and peer networking with the nation's IT leaders



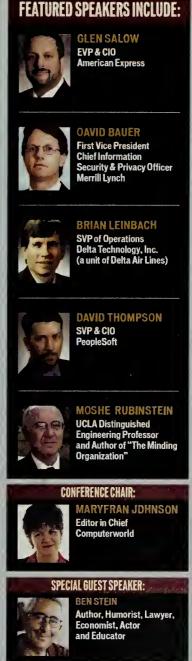
Conference sessions will cover these critical areas:

- Extending Data Management, Enterprise Integration and Web Services
- Creating a Next-Generation Infrastructure, Reducing Complexity and Enhancing Business Value
- Charting New Directions in IT Governance, Regulatory Compliance and Project Leadership
- Advancing Security and Business Continuity

Computerworld's Premier 100 IT Leaders Conference is a dramatically different, high impact executive event. Now in its 5th year, this annual conference brings together hundreds of senior IT executives for a compelling series of high-level discussion panels, presentations and peer networking activities.

The Premier 100 IT Leaders for 2004 will be announced and profiled in our January 5, 2004, issue of Computerworld and honored during a special ceremony at the March 7-9, 2004, conference. Rich with peer advice and real-world case studies, the conference content is built directly from user feedback provided by the honorees themselves. Our editors design a no-nonsense agenda that features Premier 100 honorees and other IT





To register or for more information visit: www.premier100.com/cwt



MARCH 7-9, 2004

JW Marriott Desert Springs Resort

Palm Desert, **California**

Exchange Innovative Ideas and Strategies with Computerworld's Premier 100 IT Leaders who are:

- Extending Data Management, Enterprise Integration & Web Services
- Creating a Next-Generation Infrastructure. Reducing Complexity and Enhancing Business Value
- Charting New Directions in IT Governance, Regulatory Compliance & Project Leadership
- Advancing Security & Business Continuity

WHY YOU SHOULD ATTEND

Are you responsible for mapping the future of your organization's information technology? Want to exchange innovative ideas and strategies with other top IT executives? Then attend Computerworld's Premier 100 IT Leaders Conference, the ONLY conference where you can hear from - and network with - Computerworld's Premier 100 IT Leaders.

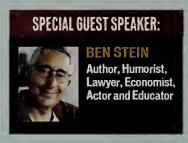
WHO ARE THE PREMIER 100?

They are a unique set of award winning IT executives with valuable lessons to share and advice to offer YOU. They are technologists who understand business needs, take calculated risks and lead through innovation. They are CIOs, vice presidents of IT, directors of IT and business managers honored as Computerworld's Premier 100 from a wide swath of vertical industries. When you attend this unique conference, you will hear proven examples of how these IT Leaders have advanced their organizations through innovative leadership and proven strategies.

WHAT IS UNIQUE?

Crafted by Computerworld editors, this conference offers a radical departure from the standard IT event. With a focus on great ideas, best practices and real applications of IT strategy, you gain direct insight from leading user organizations. The major sessions provide highly interactive, entertaining discussions with IT Leaders and industry experts - each moderated by Computerworld editors in a town-hall meeting format. Key topics center on the intersection of technology and business in areas critically important to today's IT manager.





Mapping the



Monday Keynote Address: From IT Expense to IT Value

Glen Salow, EVP & CIO, American Express

At the American Express Company, everything rides on the FT "manufacturing plant" forging the value chain for this dive sified global provider of travel, insurance, financial and network services. During the past few years, CIO Glen Salow has crafted a new value agenda for IT within the company, turning an adversarial relationship with the business side into a partnership, leading a massive outsourcing operation and managing demand for technology services in ways that elimi nated \$50 million in expense. As one of the earliest of IBM's "Computing on Demand" customers in 2002, Salow transtioned more than 32,000 employees in 32 markets to IBM and crafted a similar but smaller deal with AT&T for network services. The end result is a far more flexible Π infrastructure that responds swiftly to business change. In his keynote address, Salow will talk about recasting Π from a cost center to a value producer, and how Π leaders who concentrate delivering value will build the best futures for their own companies.



Tuesday Keynote Address

David Bauer, First Vice President and Chief Information Security & Privacy Officer, Merrill Lynch



The Once and Future Infrastructure: **An Enterprise Reality Check**

Panel Moderator: Patrick Thibodeau, Senior Reporter, Computerworld

IT leaders are inundated with vendor pitches for autonomic, "on demand," and various forms of utility "pay as you go" computing, but how well do these evolving computing models match the actual needs of the enterprise? Upgrading the aging corporate infrastructures is indeed a top priority for many companies today, but the task involves a complex cascade of decisions around desktop management, server consolidation, blades and clustering, open source, wireless an even outsourcing considerations. Alternative financing and new sourcing approaches also come into play, but what are the tradeoffs? Loss of flexibility and control? Vendor lock-in? This panel of experienced senior IT managers will tackle these tough questions as they talk about their strategies, plans and problem-solving approaches to building out a "once and future" infrastructure primed for business growth.



Evaluating Infrastructure Renewal Through Scenario Based Decision-Making

Brian Leinbach, SVP of Operations, Delta Technology, Inc. (a unit of Delta Air Lines)

IT managers have long known that the cost of development and initial deployment of IT systems is quickly matched the cost of system maintenance. In order to communicate this to its parent company, Delta Technology developed a business risk analysis tool that addresses the infrastructure renewal of technology assets by reviewing the follow characteristics: technology age, business value at risk, platform supportability, platform complexity and risk of failur This session addresses how, by developing a standardized risk scoring process and using scenario-based decision processes, companies can evaluate proposed infrastructure investment scenarios and identify mitigation strategies



Riding a Tidal Wave of Change: Data Management, **Enterprise Integration and Web Services**

Panel Moderator: Don Tennant, News Editor, Computerworld

Finding the most innovative yet cost-effective ways to manage data and integrate business and technology processes are among the most formidable challenges facing IT organizations today. But there are some compelling approaches emerging. Web services, in particular, hold the potential to enable companies to leverage software technologies (such as Sun's J2EE and Microsoft's .Net) more effectively, develop and build new app cations faster, and integrate legacy and Web applications more gracefully. Yet questions about lax security ar slippery standards compliance continue to plague Web services. The success (or failure) of Integration project is especially visible across a company's supply chain, in its wireless strategies and in business intelligence efforts. This panel will deliver a lively exchange of experience and advice on the key issues surrounding ente prise integration, including the skill set and cost challenges driving many companies to outsource development

Steal This Great Idea: Audience Participation and Working Session

Moderators: Maryfran Johnson, Editor in Chief, Computerworld, and Mar Hall, Opinions Editor/Columnist, Computerworld

PRE-CONFERENCE GOLF OUTING Sponsored by: March 7th, 12:00pm



The Pre-Conference Golf Outing at The Palm Course at the JW Marriot Desert Springs, is complimentary (\$165 value) for registered IT End-Users. (Other participants, including sponsors and vendors, may play on an "as available" basis and are responsible for all applicable golf expenses.)

For details: contact Chris Leger at 508-820-8277



For more information Or simple

Future of IT: March 7-9, 2004

SELECTED SESSIONS

Visit www.premier100.com/cwt for an up-to-the-minute agenda.



Project Disasters: How to Predict Them, Prevent Them or Pull the Plug on Them

Paul Glen, President of C2 Consulting, Computerworld Management Columnist and Author of "Leading Geeks"

Despite significant progress over the last decade, project success rates are still dismally poor. Only about onequarter of all IT projects are completed successfully. The rest are canceled completely or finished up late, overbudget and sometimes missing major functionality.

When used well, traditional IT project management approaches can provide excellent information about what happened, but they're lousy at predicting the future. In this presentation, Paul Glen will identify the five leading indicators of project success and show how to use them to predict the future, prevent problems and emerge a hero with technologists and business executives alike.



Breakfast Address: Homeland Security: Public/Private Partnerships & The Cost of Failure

Dan Verton, Senior Reporter, Computerworld, and author of "Black Ice: The Invisible Threat of Cyber Terrorism"

Cyber security is the common thread that ties together the nation's most pressing homeland security and critical infrastructure protection challenges — challenges that could be with us for many decades as the war on terror unfolds. But does the absence to date of a second major terrorist attack on the U.S. indicate that the so-called public-private partnership between the government and the private sector is really working? Or is it quietly failing due to behind-the-scenes conflicts and political skirmishes between the public and private organizations responsible for our common defense? Computerworld's Dan Verton will kick-off a day of security, business continuity and project leadership discussions with a revealing look at what's gone right, what's gone wrong and why failure cannot be an onlion.



The Myth of Corporate Security: Why ClOs are Mad as Hell and not Going to Take it Anymore

Alan Paller, Executive Director of Research, SANS Institute

From his unique research and training perspective on the security industry. SANS Institute's Alan Paller will start off this session with a live demo of a hacking incident to show just why CIOs are so irate about the poor quality of protection their software and systems provide today. Who is to blame here, and what's being done about it? Why are security staffers constantly fighting a war they never seem to win? What can you do about users who ignore procedure and worsen security problems? What recourse is there against vendors who deliver unsafe systems? In this session, Paller will introduce you to several CIOs who have made dramatic, sometimes harsh moves that forced real change. He'll show what they did and how they did it and, in a couple cases, who got in the way.

No More Excuses: Responding to the Demands of Data Privacy Laws, Regulatory Compliance and Other Business Mandates on Corporate IT Security

Panel Moderator: Dan Verton, Senior Reporter, Computerworld, and author of "Black Ice: The Invisible Threat of Cyber Terrorism"

The security agenda for 2004 is long on mandates but short on money, leaving IT to battle with few resources against a slew of malicious attacks, tough new data protection laws and demands for metrics that demonstrate effectiveness of information security procedures. The long list of pressing concerns confronting Chief Security Officers and IT leaders includes regulatory compliance practices, application and network security, spam, enterprise monitoring, benchmarking against standards and disaster recovery responsiveness. How are leading organizations juggling and responding to these myriad challenges? When everything is a priority, how can you possibly prioritize? What kind of metrics are proving most effective in gaining support and understanding from the business side? This panel will hone in on what's working (and what isn't) in their own companies, sharing a wealth of practical advice and fresh insight about how to answer the security challenges facing so many IT

"Best in Class" Project Leadership Lightning Round

A fast-paced trio of user presentations and audience Q&A, featuring the most innovative, high-impact case studies from the Premier 100 honorees



Selling Security to Your Beady-Eyed, Bean-Counting CFO

Doug Lewis, President, The Edge Consulting Group, Atlanta, and former CIO, InterContinental Hotels Group

From the "been there, done that" perspective of a longtime CIO, Doug Lewis will walk you through his methodology for building a business case for security spending with the biggest corporate roadblock of all: the Chief Financial Officer. This presentation will lay out a detailed, three-step process for determining appropriate security levels, building an affordable security plan and mapping out the ROI-based business case that senior executives will respect and support. Lewis will reveal everything from the raw ingredients of building a successful business case to the reasons why IT groups should outsource vulnerability assessments and penetration tests against key systems. He'll also explain the folly of low-balling the TCO (Total Cost of Ownership) of an expensive security overhaul, and provide specific examples (including the math) from several industry case studies.



IT Governance, Risk Management and the Future of the IT Organization

Panel Moderator: Julia King, National Correspondent, Computerworld

Many CIOs and senior IT executives are moving into expanded roles in 2004, as risk management, regulatory compliance, vendor/supplier negotiations and outsourcing management all become standard components of their leadership roles. But is IT governance ready to evolve beyond its previously narrow focus on technology spending and labor costs—into real partnership with business objectives? How should potential IT investments be evaluated and mapped to companywide priorities? What skillset changes does the current IT organization need most? Where will future project leaders come from if outsourcing continues its aggressive growth? This panel will focus on these critical issues confronting corporate IT, and offer some experienced guidance on how to prepare for the high-risk changes ahead.



Integrating Human Capital: The Magic of Creative Adaptive Planning

Moshe Rubinstein, UCLA Distinguished Engineering Professor, and author of "The Minding Organization"

The most important thing to know about planning is that organizations do entirely too much of it, says this distinguished UCLA professor and author. Too many detailed rules constrict an organization's creativity and suck the life out of our capacity for adaptive planning. In his highly engaging, dynamic interaction with the audience, Moshe will illustrate the power of human problem-solving behavior. He will demonstrate the principles of complexity theory and the importance of living in a world that moves beyond its narrow focus on productivity and service and on to better ways thinking and behaving.



Mobilize for Innovation

Thornton May, Futurist and Computerworld Columnist

How do we judge technology leadership in today's complex and troubled business climate? Emulating old-think industrialist CEOs is a sure-fire trip to the dust heap of history. True IT leaders understand that the most unambiguous evaluation of leadership is performance – its perception and its reality. Given the powerful technologies available at close-to-commodity prices, the Suits are not out of line in asking, "What value is your IT organization creating today?" It is time to shift the IT engine of growth out of reverse and into overdrive. Tapping into his extensive research and consulting work with hundreds of CIOs, futurist Thornton May will zero in on the reasons so many IT restructurings fail and provide powerful insight from the top of the IT food chain. How are the world's best IT leaders reorganizing IT to transform business and gain control over the IT supply chain? Thornton will rattle your cage and stimulate new thinking about how companies should be mobilizing for the coming age of hyper-innovation.

Solve My Problem: A Town Hall Meeting on Risk Management and Project Leadership

Gala Evening: "Best in Class" Awards Ceremony, Dinner, Honoree Recognition and Entertainment



How to Ruin Your Life

Ben Stein, Author, Humorist, Lawyer, Economist, Actor and Educator

HOTEL RESERVATIONS

!DG Travel is the official travel company for the Computerworld Premier 100 IT Leaders Conference. They are your one-stop shop for exclusive discounted rates on hotel accommodations.

To reserve a hotel room, please visit www.etcentral.com

You can also call our Conference Housing line at 1-800-340-2262



JW Marriott Desert Springs Resort

Palm Desert, California

REGISTER TODAY

for Computerworld's Premier 100 IT Leaders Conference

Registration Rates	through January 26, 2004	after January 26, 2004
IT End-User:*	\$1,495	\$1,795
Non-Sponsoring Vendor**	\$5,000	\$5,000

^{*} See IT End-User description on the registration application on reverse.

See Non-Sponsoring Vendor description on the registration application on reverse.

IT End-User* Application for Conference Registration

5th Annual

Registration questions? Please call 1-800-883-9090 or Email: p100reg@computerworld.com Visit our website at: www.premier100.com/cwt

OPTIONS: Full/On-Site Earlybird All dollar amounts are in U.S. funds; registrations include full access to all sessions, the Expo and Registration Registration Networking Lounge, meals and receptions. Transportation and hotel accommodations are your (after January 26, 2004) responsibility. Computerworld reserves the right to limit and/or refuse any registration for any reason. (through January 26, 2004) \$1,795 \$1,495 IT End-User:* Non-Sponsoring Vendor:* \$5,000 \$5,000

T LEADERS CONFERENCE March 7-9, 2004 JW Marriott Desert Springs Resort Palm Desert, California	hardware/software/services/etc. frese attending who does not have the sole discretion of Computerwo. ** Vendors are encouraged to particly Alternatively, vendors (as well as oth stitutes a "non-sponsoring vendor" re-	*IT End-Users are defined as those who are attending Computerworld's Premier 100 IT Leaders Conference with an intent (and an IT spending budget) to potentially buy/purchase hardware/software/services/etc. from our conference sponsors and exhibitors. As such, account representatives/business development from any company, analysts, and anyone else attending who does not have IT purchasing influence within their organization are excluded from the "IT End-User" designation. Interpretation and enforcement of this policy is at the sole discretion of Computerworld. Questions? Please call 1-800-883-9090. ** Vendors are encouraged to participate in Computerworld's Premier 100 IT Leaders Conference through sponsorship. (Details are available by calling Leo Leger at 1-508-820-8212.) Alternatively, vendors (as well as other "non-IT end-user" professionals as defined by Computerworld), may apply for registration at the "non-sponsoring vendor" rate. Determination of what constitutes a "non-sponsoring vendor" registration is at the sole discretion of Computerworld. Reserve your accommodations at: www.etcentral.com Questions about accommodations? Please Call 1-800-340-2262 or Email: eventhousing@idg.com		
			el. Brige	
First Name:	N	liddle Initial:	Last Name:	
Title:		Company: _		
Street Address:				Suite, Apt., etc.:
City:		State/Prov:		Zip/Postal Code:
Country:	Phone Numb			Extension:
Fax Number:		E-Mail Addr	ess:	
	out the golf outing on Sunday, March 7th? (This section must be completed in order			Payment Method
Your business/industry: Transportation / Utilities Mining / Oil / Gas Non-Profit / Trade Association Media / Publishing Banking Finance Accounting Insurance Real Estate	Your job title/function: CEO/COO/Chairman/President CIO/CTO VP/GM/Director IS/IT Director/Manager Other IS/IT Department Manager/Supervisor Other Corporate/Business Staff Consultant (internal) or Other	What is your organization's is critical development/Implem project this year: Business Intelligence/Data in the Services Mobile/Wireless Network Infrastructure/Stora Security Linux Enterprise Integration	entation Nanagement	□ Check (checks must be received by February 16, 2004 payable to: Computerworld) Mail to: Computerworld, Attn: Pam Malingowski, 500 Old Connecticut Path, Framingham, MA 01701 □ American Express □ VISA □ MasterCard Account Number:
 □ Wholesale / Retail (non-computer) □ Computer Service Provider □ Advertising / Marketing / Public Relations □ Entertainment □ Education □ Food Industry □ Government / Military □ Healtheare / Medical Services □ Travel /Hospitality / Recreation □ Manufacturing (non-IT) □ Automobile □ Transportation / Utilities / Energy □ Computers, Communications or Peripheral Equipment or Software Manufacturing □ Agriculture / Forestry / Fisheries □ Other 	The one item that best describes your involvement in the IT purchase process: Authorize the purchase Approve the budget Initiate the purchase Evaluate/recommend products, brands, vendors Identify/establish the need to purchase What is your organization's primary vendor for servers?: Dell Hewlett Packard/Compaq Hitachi IBM Sun	What is the estimated ann of your entire organization' \$10 Billion + \$9.9 Billion \$500 Million - \$9.9 Million \$100 Million - \$499 Million Less than \$100 Million What is your organization's IT/IS budget for all IT/IS pr Over \$1 Billion \$500 Million - \$999 Million \$100 Million - \$499 Million \$10 Million - \$99 Million \$1 Million - \$9,9 Million	annual	Expiration Date: Card Holder Name: Signature of Card Holder: Cancellation Policy (All of the below options require written.notification.) In the event of cancellation, the registrant has three options: 1) He or she may substitute another attendee for this conference.

- □ 5,000 9,999
 □ 1,000 4,999
 □ 500 999
 □ Under 500

3) The registration fee will be refunded, less a \$250 service charge, if written notice is received by February 16, 2004.

Please send cancellation requests via email to p100reg@computerworld.com

dresses, block some peer-to-peer traffic and even segregate dorms by subnet. Using the graphic capabilities of the package, Dodds is able to see which protocols are using the most bandwidth and then allocate bandwidth as needed.

He uses the two servers that run the bandwidth management software in an array for fail-over protection, ensuring continuous connection to the network. Dodds even tests new configurations on one of the servers' arrays before promoting it to the primary array.

Prior to implementing the bandwidth management setup, Fairmont was considering purchasing additional bandwidth. That's now been shelved.

And as for pulling the plug on illegal music and video downloads, well, let's just say Britney can shop to her heart's content. • 43186

THORNTON A. MAY

Disconnecting IT From Reality

N THE PAST 60 DAYS, I have been knees-underthe-table with hundreds of IT leaders and scratch-andsniff close to scores of vendor CEOs. In addition, I've attended more than my share of IT events. One of them, Comdex, brought together the ideas that have been swirling about me for the past two months, with frightening clarity.

We stand at a moment unprecedented in the evolution of IT. I use the word unprecedented because at no previous time in history has technology possessed more promise or its value been so seriously doubted. The doubts could overwhelm the promise, however, since two vast disconnects imperil our possibilities.

Disconnect No. 1: Despite being anointed by the mainstream media, Bill Gates, Windows and Microsoft aren't the future of our industry.

On Nov. 16, some 7,000 IT leaders streamed into the Aladdin Theatre in Las Vegas to hear what Gates had to say in his Comdex keynote speech. Yet barely half of the audience members were able to remain conscious through what may well have been the worst piece of oratory ever inflicted upon the technology industry. (In my row, half the people were asleep.)

It wasn't just a matter of Gates' skills as a speaker, but also of the ideas he was presenting.

Still, the mainstream press equates Microsoft with the future of our industry. For example, Steven Levy and the editors at Newsweek known more for color-bynumbers linear thinking than strategic insight - recently devoted a cover story to Gates in which hc talked about the future of computers. In doing so, they did both journalism and IT a disservice.

Even a modest bit of reporting would have revealed that most of the \$6 billion that Microsoft is spending on R&D is focused on protecting existing product lines rather than on creating new franchises. Microsoft's strategic weakness is its repeatedly demonstrated inability to generate sustainable businesses outside its core competence of operating systems.



THORNTON A. MAY is a longtime industry observer, management consultant and commentator. Contact him at thorntonamay@aol.com

Disconnect No. 2: People believe Scott McNealy, but they scoff at their local Sun Microsystems sales reps.

Thirteen hours after Gates' Comdex speech, McNealy gave his. What followed was a brilliant, no-props-required tour de force explanation of where the industry has been and where we are going.

Later, the 200-plus C-level attendees at the Comdex CIO Boot Camp were asked whether they more ad-

mired the thinking of Microsoft's chief software architect or Sun's CEO. The answer was unanimous for Sun's boss.

Herein lies the disconnect. McNealy and his senior team are spooky smart and have thought hard and long about how our industry works. The top of the house at Sun has architected a plausible, affordable and practical alternative path to the Microsoft hegemony.

Unfortunately, this message isn't the one being delivered by the Sun sales force, which is perceived by most IT leaders as being little more than coinoperated box sellers. Sun's sales force is the least influential and respected of all the major vendors.

Prior to pulling out the order form, Sun salespeople need to channel the powerful ideas of their leader and reconnect themselves to the marketplace. They need to articulate what McNealy's big ideas mean for workaday IT leaders.

If Microsoft can jettison its addiction to and fetish with Windows and if Sun can escape the parochialism of its sales force, we might see a tech boom that makes the dot-com era pale in comparison. If not, doubts about IT's value will continue to grow, to the detriment of us all. • 43185

WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site:

www.computerworld.com/columns

Indiana's Choice

Editor's note: The news that the Indiana Department of Workforce Development had signed a deal with Tata America International Corp. that could have resulted in as many as 65 IT staffers from India being brought in to work on a project unleashed a flood of letters, both before and after the state rescinded the contract.

WHAT'S AT ISSUE is not whether the contracting process was fair, but whether this should be allowed ["Job Agency Hires Foreign Help," QuickLink 42838]. It would have been creative of someone in the Indiana state government to search through its unemployment lists and put together a team made up of unemployed IT workers. But people aren't paid to think; they're paid to get the lowest cost.

Jim Tennyson

Independent consultant, Xcel Systems Inc., New Jersey, Jim.Tennyson@ Xcelsystems.com

ORE POWER to Republican Indiana state Sen. Jeff Drozda

and his legislation that would disallow such ridiculous maneuvers. A state agency whose very purpose is to assist state residents with finding employment should not be sending work to overseas firms.

Dan Denver

Senior systems programmer, Port Ludlow, Wash., ddenver@olypen.com

DDS ARE that hundreds of people who are qualified for the outsourced work are receiving unemployment compensation from the state. They should be given first opportunity at those jobs. Not only would the state get the job done, but some people would come off of unemployment rolls.

Every government agency should be required to include some type of "local workforce" requirements in contracts. We may not be willing to stop large corporations from sending jobs overseas, but we should be able to stop our government agencies from doing it.

John Schoettl, CISSP Saint Cloud, Fla.

OOD JOB, Gov. Kernan ["Em-**G**ployment Agency Scuttles India Contract," QuickLink 43167]. As an IT employee who is constantly seeing IT workers' livelihood shipped

overseas or overtaken by overseas workers, it's refreshing to see someone in government who is concerned about the thousands of unemployed U.S. workers. I had the pleasure of living in South Bend, Ind., when Joe Kernan was mayor. He did an outstanding job there, and it looks like his great work is continuing at the statehouse.

Edwin Shaffer

Data center production manager, Chicago, e_f_shaffer@hotmail.com

Eye-opener

■ HAVE DEDUCED why Neil Montgomery is scowling in the picture accompanying the article "Eyes Everywhere" [QuickLink 42407]. As a midmarket CEO, he is receiving daily e-mail reports on the activity of individual sales representatives and the timely delivery of individual orders. This is an outstanding example of an information system providing the wrong individual with an overabundance of irrelevant information. Are decisions being made on a daily basis by the CEO at Davis Controls that require this data? Are the outcomes achieved consideration of this data? These

daily management reports do provide valuable updates on the performance of the organization, but they should be provided only to those who are responsible for the management of that particular facet of operations - a sales manager, for example.

Of course, if this implementation of the Macola Enterprise Suite enabled Davis to eliminate its sales manager, transfer sales management responsibility to the CEO, and in doing so improve both sales force efficiency and executive leadership effectiveness, please ignore my previous paragraph.

Nate Brandstater

Assistant vice president, La Sierra University, Riverside, Calif., nbrandst@lasierra.edu

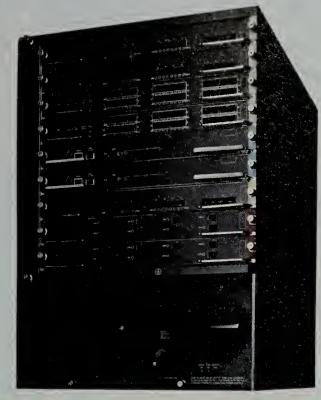
COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone num-

For more letters on these and other topics, go to www.computerworld.com/letters

ber for immediate verification. by the activity at Davis sparked by these decisions enhanced by the



8,784,834 DAILY TRANSACTIONS.



ONE ATTENTIVE SAN SWITCH.

THE CISCO MDS SAN SWITCH. Your Fibre Channel SAN solution may handle your workload now. But what about next month? Or next year? Is it time to hold true to a pure Fibre Channel environment or explore the option of an IP approach to SAN? Now you can choose both. Introducing the Cisco MDS family of switches. They grow. They adapt. They evolve. They offer Fibre Channel for high performance data center applications. FCIP and optical technology for distance. And iSCSI for scalability. Need to add a new application? Just add a new blade. Are you ready to take on the future of your data? You could be. Now.

Visit cisco.com/san to learn more.

THIS IS THE POWER OF THE NETWORK. NOW.



INTRODUCING ENSEMBLE



THE FASTEST WAY TO MAKE YOUR APPLICATIONS PERFORM TOGETHER

Imagine your applications – both legacy and new – performing together as an ensemble.

That vision can become a reality surprisingly quickly with Ensemble, the comprehensive integration platform with all the functionality you need to rapidly complete any type of integration project on deadline and on budget. Even complex projects you may have struggled with in the past.

With its unique fusion of powerful technologies for application integration, development, deployment, and management, Ensemble enables extremely fast integration and rapid development of "composite applications" – new business solutions that integrate data, orchestrate business

processes, and enhance the value of legacy applications. You'll see real-world evidence of this in the customer testimonial section of our web site.*

Ensemble is exciting new software from InterSystems. Over the past twenty-five years our high performance products have been deployed in more than 100,000 mission-critical systems around the world.

We're so confident that Ensemble is dramatically faster than any other integration technology, we'll be happy to begin our partnership with you by conducting a pilot project. To pursue this, contact us at:

www.InterSystems.com/Ensemble/Pilot



^{*}Read how companies like yours have integrated applications faster with Ensemble: www.InterSystems.com/Ensemble/Customers
If you are a System Integrator in need of a rapid integration platform, come to www.InterSystems.com/Ensemble/Partners

TECHNOLOGY



FUTURE WATCH The New Internet

Researchers say PlanetLab promises a faster, more reliable and more secure Internet, but it will take years to accomplish. Page 36

SECURITY MANAGER'S JOURNAL Single Sign-on Effort Falls Short

When Mathias Thurman's company merges its directories and moves toward a single sign-on system, the implementation has some undesired effects. Page 40

QUOTE OF THE WEEK

Toys for techies are gone from enterprise IT budgets, but technology investment is essential if companies are to move ahead or even keep up with the competition.

Columnist Tommy Peterson, page 44

Some six months after its launch, early adopters and consultants give Windows Server 2003 a thumbs up for turning many services off by default, but security concerns still remain. **BY CAROL SLIWA**

HERE ARE GOOD reasons why expectations have run higher for Windows Server 2003 from a security standpoint than for any prior edition that Microsoft Corp. has released.

With its April launch, Windows Server 2003 became the first operating system to ship since Microsoft commenced its much-touted Trustworthy Computing initiative in earnest, after Chairman Bill Gates sent the company's employees a memo in January 2002 telling them that security would be the "highest priority."

Soon after Gates issued the memo, Microsoft shut down Windows production for 10 weeks to train engineers in writing secure code. The company delayed Windows Server 2003 for roughly a year, in part to allow more time for intensive source-code analysis, threat modeling, penetration testing, buffer overrun checks and security audits.

The natural question becomes this: Is Windows Server 2003 living up to its billing? Some say no. More say it's too early to tell.

Better Security by Default

Early adopters, analysts and consultants agree that Microsoft has made improvements - most notably, disabling many features and functions in the default install to reduce the surface area available for hackers to attack. Internet Information Server 6.0, for instance, is turned off by default. And overall, Microsoft shut off or reduced privileges for more than 30 services in Windows Server 2003.

"You design the role of the server and turn on only things appropriate to the task at hand. That is the greatest security feature we've seen and taken advantage of in Windows Server 2003," says Scott Campbell, director of IT operations at First American Title Insurance Co. in Santa Ana, Calif. The company is currently certifying applications to run on Windows Server 2003 in preparation for a gradual rollout to 172 servers.

But early adopters have yet to reach a verdict when judging the new operating system from a vulnerability standpoint. Most have neither tested nor deployed Windows Server 2003 at large scale or in a wide enough range of scenarios to tell just how solid it is.

"We want to see at least two quarters' worth of data - and I don't care about patches. I want to see the penetration test results," says Jeremy Lehman, a senior vice president who heads the technology group at New York-based Thomson Financial, which has migrated about 20 servers to Windows Server 2003.

Some security experts are already dubious. They point out that some of the vulnerabilities affecting older Windows operating systems also plague Windows Server 2003, as demonstrated

through patches that have been issued. Continued on page 32

WINDOWS SERVER 2003: ens



Visit *ibm.com/pc/safecomputing* periodically for the latest information on safe and effective computing. Warranty Information: For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC 27709, Attn. Dept. JDJi/8203. IBM makes no representation or warranty regarding third-party products or services. *Prices do not include tax or shipping and are subject to change without notice. Reseller prices may vary. 'Requires download of client software. 'Mobile Intel Pentium processors feature Intel SpeedStep® technology. With Intel SpeedStep, processor speed may be reduced to conserve battery power. *11a, 11b and 11g wireless is based on IEEE 802.11a, 802.11b and 802.11g, respectively. An adapter with 11a/b, or 11a/b/g can communicate on either or any of these listed formats respectively; the actual connection will be based on the access point to which it connects. 'Software may differ from its retail version (if available) and may not include user manuals or all program functionality. License agreements may apply. 'For hard drive, GB = billion bytes. Accessible capacity is less; up to 4GB is service partition. 'Includes battery and optional travel bezel instead of standard optical drive in Ultrabay bay, if applicable; weight may vary due to vendor components, manufacturing process and options. Thinness may vary at certain points on the system. 'Support unrelated to a warranty issue may be subject to additional charges.

With the best data protection available on a wireless notebook, you can work where you like. Knowing there's a power looking out for you.

It's easy to work wirelessly when you choose the exceptional performance of these IBM ThinkPad® notebooks with Intel® Centrino™ mobile technology. You'll also get the most secure PCs available. Because IBM builds in an extra layer of protection on select models for passwords and documents, making it extremely tough for the unauthorized to access your vital data. No one else offers this level of hacker-resistant hardware and software security as a standard feature. So feel free to go where the mood takes you. We'll be right there beside you. think protection

1 866 426-0004 | ibm.com/shop/m588 Save on shipping. Order online?



IBM recommends Microsoft® Windows® XP Professional for Business.

NEW! IBM ThinkPad R40

Distinctive IBM Innovations:

- · Access Connections Easiest wired and wireless connectivity
- IBM Embedded Security Subsystem 2.01 -Strongest security as a standard feature

System Features:

- Intel[®] Centrino[™] mobile technology
- Intel Pentium M processor 1.40GHz
- Intel PRO/Wireless Network Connection 802.11n3
- Microsoft® Windows® XP Professional®
- 14.1" XGA TFT display (1024x768)
- 256MB DDR SDRAM
- 20GB5 hard drive
- Ultrabay™ Plus CD-RW/DVD-ROM combo
- IBM UltraNav™ TrackPoint® and touch pad
- 1-yr system/battery limited warranty

NavCode 289793U-M588

Recommended Option:

3-yr Depot Repair #30L9192 *132

NEW! IBM ThinkPad T41

Distinctive IBM Innovations:

- Access Connections Easiest wired and wireless connectivity
- IBM Embedded Security Subsystem 2.0 Strongest security as a standard feature

System Features:

- Intel Centrino mobile technology
- Intel Pentium M processor 1 40GHz²
- Intel PRO/Wireless Network Connection 802.11
- Microsoft[®] Windows[®] XP Professional
- 14.1" XGA TFT Display (1024x768)
- 256MB DDR SDRAM
- NEW! 40GB hard drive with IBM Hard Drive Active Protection System
- Ultrabay Slim CD-RW/DVD-ROM combo
- Only 1" thin 4.5-lb travel weight
- 1-yr system/battery limited warranty

Recommended Option:

 ServicePac[®] Service Upgrad 3-yr Onsite Repair/9x5/Next Business Day Response #30L9195 *243

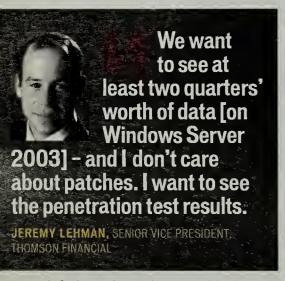
*These services are available for machines normally used for business, professional or trade purposes, rather than personal, family or household purposes. Service period begins with the equipment date of purchase. If the machine problem turns out to be a Customer Replaceable Unit (CRU), IBM will express ship the part to you for quick replacement. Onsite 24x7x2-hour service is not available in all locations. For ThinkPad notebooks requiring LCD or other component replacement, IBM may choose to perform service at the depot repair center. Standard shipping Included when you order online. U.S. only. IBM reserves the right to alter product offerings and specifications at any time, without notice. IBM is not responsible for photographic errors. All IBM product names are registered trademarks of International Business Maehines Corporation in the U.S. and other countries. Lotus and SmartSuite are registered trademarks of Lotus Development Corporation, an IBM company. Intel, Intel Inside, the Intel Inside logo, intel Celeron, Intel Centrino, the Intel Centrino logo and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the U.S. and other countries. Microsoft and Windows are trademarks or registered trademarks of Microsoft Corporation. Other company, product and service names may be trademarks or service marks of others. © 2003 IBM Corp. All rights reserved

Continued from page 29

"I still give them an F," says Russ Cooper, surgeon general at TruSecure Corp. in Herndon, Va. "We keep getting examples of how nothing's changed."

But where some see a black cloud, others see a brighter horizon. Microsoft CEO Steve Ballmer noted this fall during keynote presentations that Windows Server 2003 had four critical vulnerabilities at the 150-day mark, compared with 17 for its predecessor at the same stage. "It's insufficient, but it's real improvement," he says.

The total vulnerability count was 32 for Windows 2000 and 14 for Windows 2003, according to Mike Nash, vice president of Microsoft's security business unit. Nash notes that certain vulnerabilities rated critical for some products are moderate for Windows Server 2003 because of its more secure



default configuration. He adds that the vulnerability comparison to Windows 2000 is fair, since there are more people scrutinizing the product than there were three years ago.

But Marc Maiffret, co-founder and chief hacking officer at security services vendor eEye Digital Security Inc. in Aliso Viejo, Calif., doesn't view the statistics that Microsoft has put out — or statistics from any vendor — as a credible gauge. He says some vendors may neglect to mention that some advisories address multiple vulnerabilities, or they may silently address a collection of vulnerabilities via a service pack. "I've never seen anyone do a valid breakdown on the numbers. Everyone seems to have some type of agenda," he says.

And Tom Bittman, an analyst at Gartner Inc., says Windows 2000 Server was a "monster release," so it's not surprising that its vulnerability count was higher in the first 150 days. In contrast, Windows Server 2003 is an incremental release, he says. "The billing was Trustworthy Computing, the most secure operating system. The impres-

sion people took away is we would see a dramatic improvement," Bittman says. "This is a battle they cannot win. All they need is one dangerous security problem out there, and it'll look like they haven't solved their problem."

New Security Features

Microsoft introduced a collection of features and enhancements to help improve security in Windows Server 2003. Administrators who use publickey infrastructure services, for instance, will be able to automatically enroll and renew certificates. They will also be able to control access to resources based on an employee's role and set policies to prevent executable programs from running on computers.

Michael Stephenson, a Windows Server group product manager, says another helpful new feature that shipped with a resource kit, the network access quarantine service, lets users check the state of computers accessing the network and block VPN access if necessary.

Yet no matter how many security enhancements the new server operating system has, early users most frequently mention the new default settings that lock down services that might be vulnerable to attack.

Instead of knowing how to turn services off, IT shops now have to learn how to turn them on, says Bob Lamoureux, chief architect at Thomson Financial. He says the process isn't difficult, although it doesn't hurt to check out the installation guides beforehand.

Although some early adopters think Microsoft did a good job with the new default settings, TruSecure's Cooper still doesn't think enough services are turned off. Internet Explorer, for instance, is enabled at a high security level in Windows Server 2003 for serv-

KEY CHANGES

To learn about key security

improvements in Windows

www.computerworld.com

Server 2003, go online:

QuickLink 43103

er administration purposes, but Cooper questions why the Web browser is enabled at all. "I need to know that I don't need to reboot my mission-critical server because of the latest IE cumulative update," he says.

Other features that Cooper thinks should not be on the box include Outlook Express, Media Player and Remote Assistance — "just all these tools that are unnecessary for a server and have been exploited in the past."

Cooper says he conducted a study at the end of July and found that almost every vulnerability affecting Windows 2000 Server also affects Windows Server 2003. "This certainly doesn't bode well for all the extra work Microsoft claims to have put into the code base," he says.

Gartner's Bittman says he thinks Microsoft will eventually have to consider a complete Windows code rewrite. "It's a lot easier to design secure code from Square 1 than it is to go back and find possible holes," he says.

It has certainly been a source of frustration for Microsoft to learn of bugs that date back to Windows NT 4.0. Steve Lipner, directory of security engineering strategy at Microsoft, says the company is, in come cases, finding new vulnerabilities in old code, including new patterns of buffer overruns.

Lipner says Microsoft does a postmortem to determine the cause of every vulnerability, trying to find out if it occurred because of a process error, a technology problem or a programmer's mistake. "Then we'll respond appropriately to try to update what we do and how we do it to make sure that our customers don't suffer through the cost of that problem again," he says.

But some users are growing frustrated. David Bryant, senior information security engineer at St. Petersburg, Fla.-based Raymond James Financial Inc., which has migrated about 25 of its 500 Windows servers to the new operating system, says he's concerned that the buffer overflow problems of prior Windows versions affect the latest iteration as well. He says he fears that Microsoft may be depending on users deploying firewall technologies to secure its software, rather than focusing on writing secure code.

"I'm disappointed that it appears that Server 2003 will again be an OS that I can count on for several critical patches every month," he says.

Maiffret at eEye says it will take another six months to determine whether the vulnerabilities that have surfaced

are flukes or signs of more to come in Windows Server 2003. But the early appearance of default remote system vulnerabilities — "the most severe type of vulnerability you can have in a Win-

dows operating system" — has led him to conclude that Windows Server 2003 is not substantially improved securitywise and that companies with large Windows 2000 Server installations will find no cost justification to migrate.

Users of Windows NT 4.0 will be more compelled to move, although security may not be the driving factor. Steve Yeager, vice president of information systems at WestAmerica Mortgage Co. in Oakbrook Terrace, Ill., says his company was in growth mode and

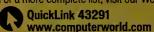
Windows' Big Turnoff

To reduce the attack surface area, Microsoft turned off some of the services in Windows Server 2003. Here are some of the more prominent features that are disabled by default:

- Alerter
- Distributed Link Tracking Server
- Indexing Service
- Internet Information Server
- Internet Connection Firewall
- Messenger
- .Net Framework Support Service
- NetMeeting Remote Desktop Sharing
- Remote Access Auto Connection Manager
- System Event Notification
- Task Scheduler
- **■** Telnet
- Terminal Services Session Directory

THE LIST GOES ON

For a more complete list, visit our Web site:



needed to upgrade its aging NT servers. The new security features were simply a "side benefit," he says.

Gartner analyst John Pescatore views Windows Server 2003 as a major leap forward, and he estimates that, in the long run, it will have fewer critical security flaws than Windows 2000. He notes that Gartner originally advised clients to wait 18 months to deploy the new operating system but has now reduced that by six months.

Some organizations may want to wait for security improvements that are on the way. Ballmer recently outlined new technologies that will help to lock the memory so worms and exploits can't write into "bad pieces of memory after a buffer overrun problem." New perimeter inspection technologies and role-based security configurations are due in the second half of next year with the first service pack for Windows Server 2003.

"Microsoft has made some significant advances in the security of Server 2003," says Bryant, "but it still needs more work." • 42985

Computerworld's Jaikumar Vijayan contributed to this story.



We see management a little differently from the rest of the crowd.

At NetlQ, we don't see a problem. Only solutions. Managing your Windows server environment is easier than ever with Microsoft Operations Manager. And, as a key Microsoft partner, NetlQ extends Microsoft Operations Manager to manage and secure your entire enterprise, whether you're driving UNIX, NetWare, Linux, Windows...or all of them. NetlQ. We're the management people. And nobody does management smarter. Nobody.



CIO eBook! Get your free copy of From Chaos to Control:
The CIO's Executive Guide to Managing and Securing
the Enterprise. www.netiq.com/manageability



MOUNG DATA

The idea of trucking records to a hidden, blastproof underground storage facility sounds so very 1950s, but increased regulation and electronic delivery systems have stoked the demand for Iron Mountain's off-site archiving services.

HE DRIVE FROM the
Pittsburgh airport to the
secret underground facility winds through
rolling Pennsylvania
farmlands and woods,
past quaint old churches
and through tiny towns
that time has overlooked. The access
road to the site is unmarked, but written directions say to turn left just after
a certain picnic shelter.

A guard stops the car and searches it. Satisfied that the visitors don't have weapons, cameras or tape recorders, he advises driving forward to the next checkpoint and honking the horn. There, at the mouth of an old limestone mine, a massive metal gate grinds open, admitting the car to an underground guard post for more searches and interrogations.

Just when it seems that every conceivable security measure has been attended to, a guard hands the visitors a fire extinguisher and says it must be carried in their vehicle wherever it might travel in the 20 miles of tunnels that run through the mine.

One might reasonably assume that this records-storage facility, owned by Boston-based Iron Mountain Inc., is just miles of tape racks and filing cabinets. It is that, but it also houses a 130-acre underground city, where 1,900 people work for 110 companies and

government agencies. It has its own data center, bus service, fire department and power plant, as well as a water system with a five-acre underground reservoir.

The facility is a vast catacomb 200 feet below the surface, where electric golf carts scurry among mostly unmarked rooms and vaults with climates tailored for the treasures they house — paper documents, digital magnetic media, microfilm, video and audio tapes, photographs, original prints of Hollywood films, human tis-

sue samples and things Iron Mountain won't tell you about. The exact location of this, the largest underground storage facility in the world, is revealed only on a need-to-know basis.

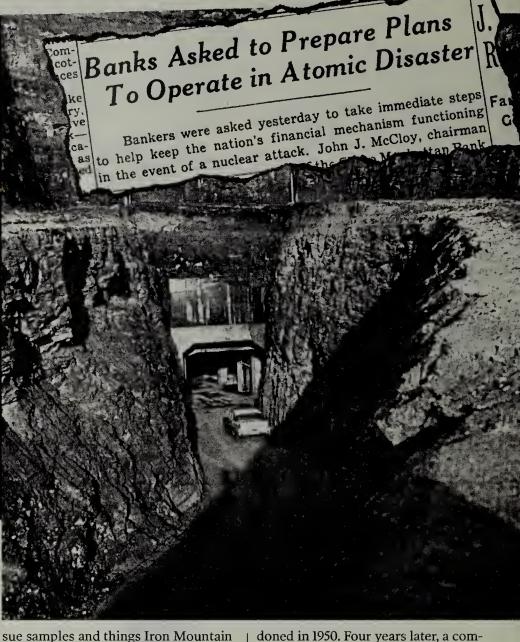
Digging at the mine began in 1902. It produced limestone for U.S. Steel Corp.'s nearby mills until it was abandoned in 1950. Four years later, a company Iron Mountain later acquired converted it into an atomic bomb shelter for customers' vital records and, if necessary, customers' executives.

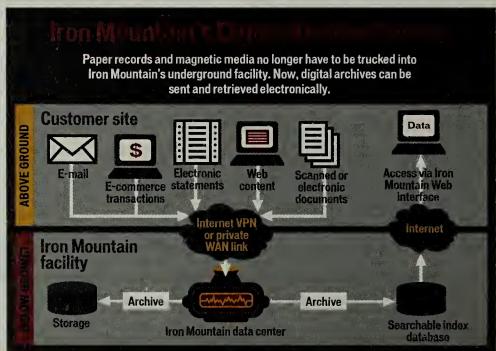
Over the ensuing decades, Holly-wood studios sent their precious original films there for long-term storage, federal agencies sent sensitive records and the people who created them there for secrecy and safety, and corporations sent their vital paper records there for archiving. Not much changed over those years.

New Rules

Then came the scandals on Wall Street — at Enron, Arthur Andersen, World-Com and dozens of other companies. Congress, the U.S. Securities and Exchange Commission and the stock exchanges reacted with a raft of new record-keeping and archiving rules and regulations, while employees, shareholders and customers unleashed a torrent of litigation.

Even in situations where no legal requirement for archiving exists, judges in corporate governance lawsuits are demanding backup files of electronic







records, most notably e-mail messages. Companies that can't produce them often settle the suits on unfavorable terms and sometimes pay stiff fines.

In response to the resulting surge in demand for safe and secure digital records storage, Iron Mountain earlier this year opened a 5,000-sq.-ft. data center inside its secret underground facility. The data center includes 24TB of storage capacity and the equivalent of 1,586 Tl communication lines connecting it to the world above.

The \$1.5 billion company also rolled out a digital records archiving service that customers can use to send the Pennsylvania facility document scans, e-mail and instant messages, financial records, Web content, images and anything else that can be put into digital form.

So what was first a limestone mine and then a facility where companies shipped paper records and magnetic media to protect them from atomic blasts has been transformed once again, this time into a place where companies can send and retrieve their digital archives over private WAN links or through the Internet, bypassing the guards and the big steel gate.

An IT vice president at a large New York brokerage, who asked not to be named, says his company sends Iron Mountain some 2 million e-mails and instant messages per week. The mes-

sages flow continuously over two dedicated lines — one to a data center in Boston, the other to the Pennsylvania facility. The company has also set up an encrypted virtual private network (VPN) over the Internet as an emergency backup channel.

The IT manager says Iron Mountain writes two copies of the brokerage's message traffic to nonerasable WORM (write once, read many) media, in accordance with a new SEC requirement. He says outsourcing the job met the company's four goals: fast implementation, distributed user access to archived messages, good audit trails on user access and compliance with federal regulations.

Outsourcing message archiving was also attractive because it would have been too time-consuming and expensive to set up the WORM infrastructure in-house and provide two separate physical facilities for media storage, the manager says.

But he acknowledges that the arrangement carries with it some worries. "You are entrusting very sensitive data to an external vendor, so that's always a concern," he says.

Digital records archiving is a logical function to outsource, says Alan Pelz-Sharpe, an analyst at the Boston office of Ovum Inc., an IT research firm. But even a company that specializes in archiving and uses state-of-the-art

RECORDS MANAGEMENT: A NEGLECTED DISCIPLINE

TRADITIONALLY, organizations have thought of records management as the cataloging and storage of inactive paper records. They may have document management systems, where the emphasis is on author collaboration, document creation and publishing. But the fine points of archiving methods, retention schedules, physical storage, security, retrieval methods and so on are often neglected or handled on an ad hoc basis.

Issues surrounding the retention of electronic messages, which companies typically haven't considered archivable records, can be especially troublesome.

It's difficult and expensive to selectively retrieve e-mails from tapes because the files aren't indexed, says Margaret Rimmler, a vice president at records-storage company Iron Mountain. And it's dangerous to keep too much information. "So a company has five years of backup tapes, and . . . they think they have this great records management program. But you know what? Those backup tapes are still discoverable, and they have everything on them," she says. Keep records management and disaster recovery separate, Rimmler advises. "You set up your good records management program for e-records, then you set up your backup tape rotation to be just for disaster recovery. Don't let the tapes just hang around like a lot of IT people do; put them on a 30-day rotation."

Commercial ERP and CRM systems typically don't have records management and archiving capabilities that meet regulatory requirements,

Rimmler says. Until they do, she says, users will need add-on products such as IBM's Content Manager and Records Manager, FileNet Corp.'s Records Manager or Records Manager from the Documentum Inc. unit of EMC Corp.

Many of the pitfalls associated with digital records management and archiving can be avoided by outsourcing the job to companies such as Iron Mountain, Recall Corp. or Zantaz Inc., says Patrick Gordon, a principal consultant at Compliant Systems Consulting LLC in Medfield, Mass. "The benefit is there's a whole infrastructure you don't have to deal with," he says. But, Gordon warns, "you still have fiduciarry responsibility for that information. You . . . are giving up some control and taking on another level of risk when you outsource."

Deciding what to save is complicated by the fact that any given file, such as a word processing document, usually exists in six or seven places in a company's IT systems, says Alan Pelz-Sharpe, an analyst at Ovum. Moreover, companies lack the tools – and sometimes the will – to classify files as official business records to be archived or "garbage" that should be deleted as soon as possible.

But the biggest records management challenge of all, according to Pelz-Sharpe, is this: "Nobody wants to do that work. It's boring, and there's no ROI. You have CIOs and CFOs saying, 'Well, I guess we have to do this because it's the law,' but there's absolutely no enthusiasm for it."

- Gary H. Anthes

technology can't address problems that occur before records can be captured by a records management system. "Typically, the business processes are not in place, and some of the data is in paper, some is electronic, some is in attachments to e-mail, and guess what? They have no idea which is which and where it is," he says.

The Digital Archive

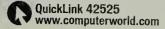
In Iron Mountain's system, a front-end processor running at its data center takes incoming records and applies customer-supplied business rules that specify retention periods, adds tags to aid in information auditing and retrieval, applies digital fingerprints and provides other records management and security functions. It writes the records to disk and later to tape, while creating a searchable index that's accessible by the customer via a Web browser (see diagram). Destruction of records can occur automatically, based on customer-supplied rules, or by customer command.

The Digital Archive service, which costs about \$12 per month per gigabyte, is a remote records management system that applies file-level logic and accessibility to information for compliance and other purposes. Iron Mountain offers a remote service called Electronic Vaulting for off-site bulk data protection for disaster recovery.

For whatever purpose — disaster recovery, legal compliance or simply preserving corporate history — Iron Mountain's old mine will receive more and more of its inventory electronically, says the IT vice president at the New York brokerage. His firm is likely to move in that direction as it begins to bypass paper entirely. "Records will be digital to start with," the IT manager says. "It will be a natural progression over time." • 43003

THE NEW RULES OF STORAGE

Laws such as HIPAA and the Sarbanes-Oxley Act are forcing IT managers to re-examine their storage infrastructures:



The New Internet

Researchers are building a new Net, one layer at a time. By Lucas Mearian

ing the next incarnation of the Internet say it will be faster, more reliable and more secure. Moreover, it will be selfaware and able to determine the best way to deliver data and services.

The most prominent next-generation Internet project is PlanetLab, a research testbed that's been in existence for about a year and a half. It consists of 160 servers hosted at 65 sites in 16 countries. The goal is for Planet-

Lab to grow to 1,000 widely distributed server nodes that connect into the majority of the current Internet's regional and long-haul backbones.

"It's a playground for new services. Depending on which service you're most excited about, that's what PlanetLab will look like," says Frans Kaashoek, a professor of computer science and engineering at MIT, a PlanetLab developer.

Kaashoek and other scientists are developing architectures that will automatically distribute data to multiple points around the globe in order to speed delivery and will have multiple network paths to ensure that data gets to its destination. The network will read data requests and direct them to the servers closest to the point of origination to fulfill the requests.

The challenge for scientists is to put intelligence into the

network itself so it can understand the information that's being transported across thousands of servers and millions of miles of cable.

PlanetLab, which is up and running for the research community, is a joint project being led by Intel Corp. and about 70 university scientists around the world.

Just as the Internet was an overlay network on top of the

telephone network, PlanetLab provides for an additional layer on top of the Internet. In turn, services such

as streaming media, peer-topeer file sharing and videoconferencing will be layered on top of PlanetLab.

One network layer atop PlanetLab is IRIS, or the Infrastructure for Resilient Internet Systems. IRIS promises to speed up searches and information transfers by using a self-organizing, peer-to-peer overlay network to position data closer to end users and thwart denial-of-service attacks by balancing loads among Web servers.

John Kubiatowicz, an associate professor at the University of California, Berkeley, says IRIS is a radical departure from the client/server model and application-specific environment of today's Internet because of its ability to spread data and rebuild it using sophisticated algorithms.

Kubiatowicz is also working on another layer to ride on top of PlanetLab, called Ocean-Store, which is a utility-type service for storing data across millions of servers.

Backup Plan

In OceanStore, Internet service providers and others would be paid to act as repositories for the world's information, which would be kept as multiple copies, protected by encryption and automatically rebuilt should any single storage point fail.

"If you think about the classic problem with archival storage, data resides on tape in some basement, and 10 years later you can't read the tape," Kubiatowicz says.

"The only way data can be preserved over the long haul is if it's separated from the physical media it's originally stored on. That means the places where it is stored must change over time," he explains.

OceanStore's software does

that by breaking data into many tiny, encrypted parts and moving them across a vast array of Web servers that can be driven by policy engines to resave or move data to different formats over time.

"You'd pay a monthly fee to a company to provide a storage service, and in turn, that data would be kept secure for hundreds of years, protected via encryption, and it could be accessed from anywhere in the world quickly because it would be cached locally," Kubiatowicz says. "Basically, you'd be able to plug into the wall and get storage."

Kubiatowicz says companies could use OceanStore for routing data in-house to servers across their entire infrastructures for greater redundancy and resiliency.

Netbait is another layer running on the PlanetLab testbed. Like a doctor tracking a new virus in the body in order to discover how to fight it, Netbait will be able to track worms and viruses as they appear and watch how they propagate, developing profiles to help stop them in their tracks.

"It'll look at the way [a virus] is trying to penetrate a Web site. That would allow you to have an early warning of worm or virus behavior, allowing for faster diagnostic analysis and the ability to warn people about how to protect themselves from it," says Kevin Teixeira, a spokesman in Intel's research division.

While scientists are cur-

PlanetLab's Layers

Repair-oriented computing:

Software that enables Web servers and routers to repair themselves.

CoDeeN: A content distribution network that automatically spreads data across the Internet.

ScriptRoute: A programmable network measurement service.

Netbait: A worm detection and tracking service.

OceanStore: A storage utility that stores multiple copies of documents across millions of Internet servers.

IRIS: A self-organizing, peerto-peer overlay network to position data closer to end users.

rently using PlanetLab to disseminate research information, one of the most promising aspects of the network for everyday users is its ability to provide multiple copies of data or video on servers throughout the world, closer to those requesting it.

"There are more servers and more clever algorithms that know how to send data to the closest computer and cache it there," Kaashoek says.

The new Internet will unfold over many years, he says.

"Just as the telephone [network] emerged, this overlay of intelligent networks will grow and populate, and there'll be certain versions of it that people will eventually standardize on," Kaashoek says. "In an evolutionary way, the Internet will upgrade itself over time."

Q 43089



The PlanetLab Map

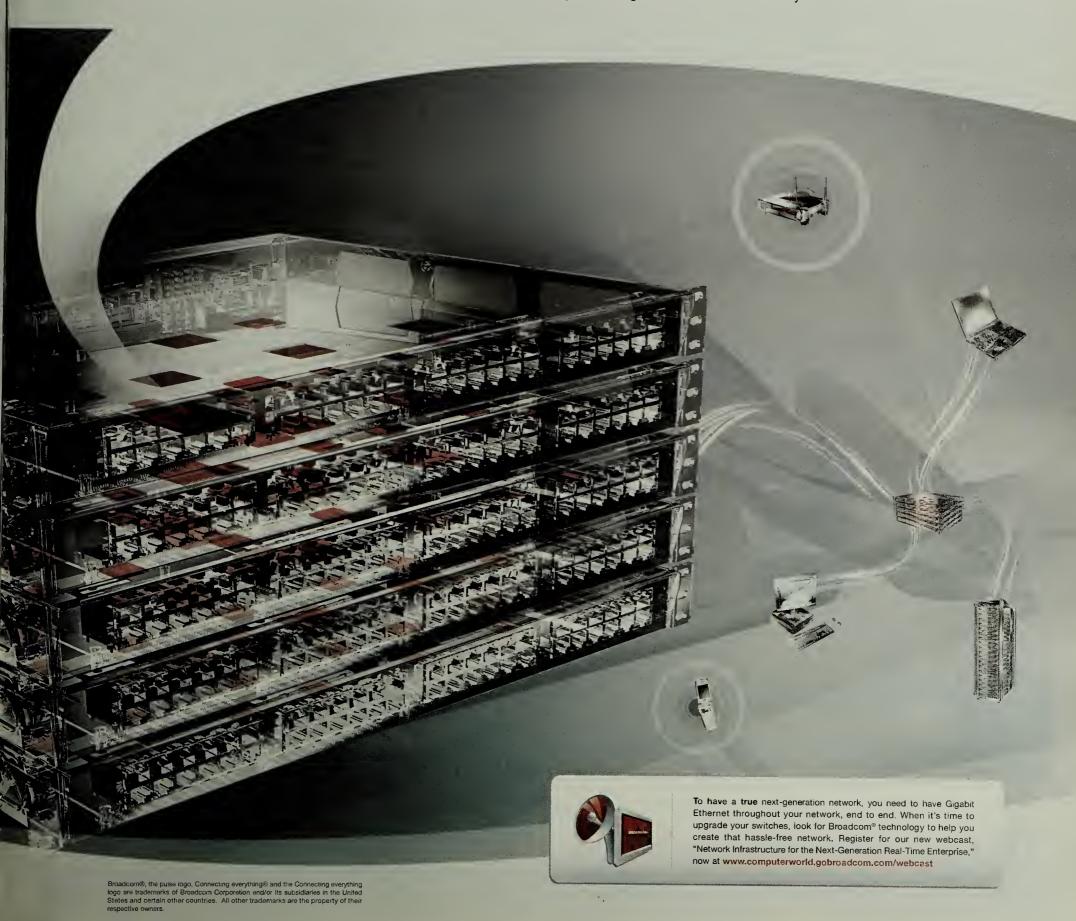
This map from www.planet-lab. org is generated dynamically from the PlanetLab database, which includes longitude and latitude for all the institutions hosting PlanetLab servers.

The color of the nodes reflects the average number of bytes sent from hosting machines at the sites during the last five minutes. The map automatically refreshes every five minutes to reflect changes in the traffic generated by PlanetLab servers.

YOUR NEXT-GENERATION NETWORK COULD BE JUST A SWITCH AWAY

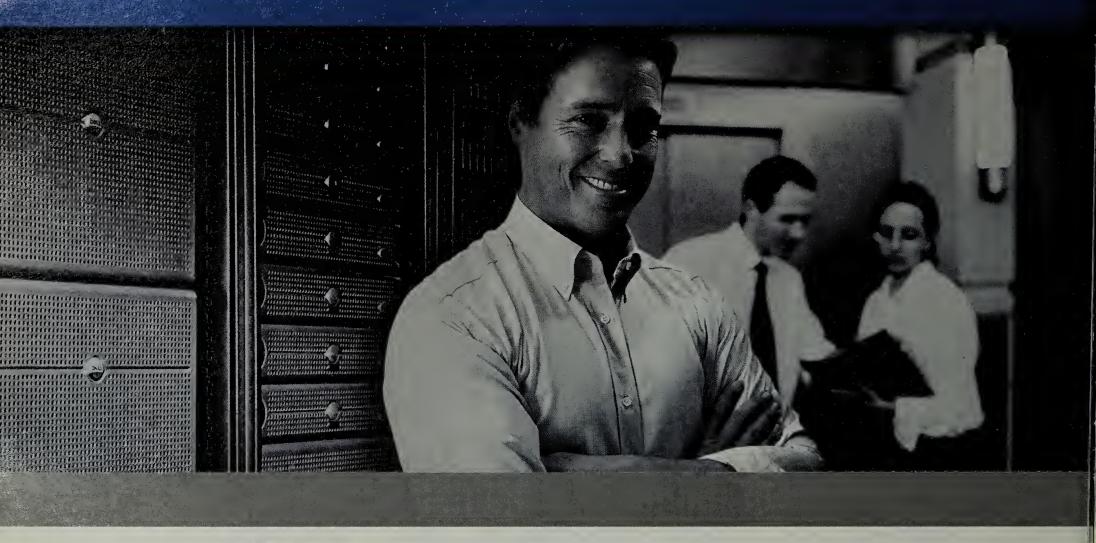


More and more of your desktops, notebooks and servers are equipped with Gigabit Ethernet—but are your switches also ready for the increased demands of real-time business? Broadcom's highly integrated Gigabit technology is designed to speed the cost-effective migration from Fast Ethernet to Gigabit Ethernet, end to end. That's why the top 5 switch manufacturers turn to Broadcom when they need high-performance, field-proven Gigabit Ethernet chips¹ with advanced features like the industry's only built-in, real-time cable diagnostics and correction. So whether you're upgrading your entire enterprise, your remote offices or just select departments, Broadcom® technology inside your switches gives you what you need to complete your next-generation network—today.



A world of IT solutions.

Whatever your world.





Dell has a customized IT solution for your business, no matter what business you're in, or what size it is. From PowerEdge™ servers featuring Intel® Xeon™ processors to network support products like PowerVault™ storage and PowerConnect™ switches, Dell offers flexible, high-performance industry-standard technologies and software solutions that are just right for your particular business needs. And we'll help you every step along the way. Whether it's planning and design, testing and validation, systems management, or our award-winning 24x7 service and support, Dell will help you create an IT infrastructure that's easy to choose, deploy and manage. So make life easy on yourself and get a big advantage over your competition—with a unique IT solution from Dell.

PC Magazine Editors' Choice Award

PowerEdge 1750 — October 28, 2003



File&Print Servers

Reliable servers that make managing your network easy.

NEWPOWEREDGE™ 400SC SERVER

Small Business Value Server

- Intei® Celeron® Processor at 2GHz
- Upgradable to Intel® Pentium® 4 Processor at 3.20GHz with BOOMHz Front Side Bus27
- 12BMB 333MHz ECC DDR SDRAM (Up to 4GB)
- * 40GB (7200 RPM) IDE Hard Drive
- Upgradable to 240GB of Internal Hard Orive Storage
- Embedded Intel® PRO Gigabit⁵⁰ NIC
- 1-Yr 24x7 Dedicated Server Phone Tech Support
- 1-Yr Next Business Day On-Site Service³
- Small Business Pricing

\$399 E-VALUE Code; 20259-S21203g

POWEREDGE™650* RACK SERVER

1U Value Rack Server

- Intel® Pentium® 4 Processor at 2.40GHz
- Upgradable to Intel® Pentium® 4 Processor at 3.06GHz
- 256M8 266MHz ECC DDR SDRAM
- Upgradable to 4GB of SDRAM
- 40GB (7200 RPM) IDE Hard Drive
- Upgradable to 240GB of Internal Hard Drive Storage
- ATA 100 IDE RAID Controller Available
- Intel[®] PRO Gigabit[™] NIC
- 3-Yr Next Business Day On-Site Service3
- Small Business Pricing

\$1199 as low as \$33/mo., (46 pmts.**) E-VALUE Code: 20259-S21211g

Database&Web **Hosting Servers**

Server solutions to manage diverse networks.

POWEREDGE™ 2600 TOWER SERVER

Multi-Use Tower Server

- Intel® Xeon™ Processor at 2.40GHz
- Dual Intel® Xeon™ Processor Capable (Up to 3.20GHz)
- 512M8 266MHz ECC DDR SDRAM
- Upgradable to 6GB of SDRAM
- 36GB (10K RPM) Ultra320 SCSI Hot-Swap Hard Drive
- · Active ID Bezel for Monitoring System Health
- 3-Yr Next Business Day On-Site Service3
- · Small Business Pricing

1799 as low as \$49/mo., (46 pmts.*) E-VALUE Code: 20259-S21217g

POWEREDGE™ 1750* RACK SERVER

Feature-Rich 1U Rack Server

- Intel® Xeon™ Processor at 2.40GHz
- Dual Intel® Xeon™ Processor Capable (Up to 3.20GHz)
- 1G8 266MHz ECC DDR SDRAM (Up to 8GB)
- 18GB (15K RPM) Ultra320 SCSI Hot-Swap Hard Drive • Integrated Dual-Channel Ultra320 SCSI Controller
- · Active ID Front Bezel for Monitoring System Health
- 3-Yr Next Business Day Dn-Site Service³
- · Small Business Pricing

\$2029 as low as \$55/mo., (46 pmts.**) E-VALUE Code: 20259-S21220g

Storage Options

Cost efficient file storage to

POWEREDGE™ 6600* TOWER SERVER

High-Speed Mission Critical Tower Server

Build a powerful, protected network.

Intel® Xeon™ Processor at 1.50GHz

4-Way Servers

- Quad Intel® Xeon™ Processor Capable (Up to 2.80GHz)
- 512MB DDR SDRAM
- Up to 32GB 266MHz DDR ECC SDRAM
- Up to 1752GB Maximum Internal HDD Storage
- Embedded Ultra SCSI Adaptec® (160MB/s) Controller
- · Standard Hot-Swap Hard Drives, Hot-Swap Redundant Fans and Hot-Swap Redundant Power Supplies
- 10 Hot-Plug PCI-X Slots

3999 as low as \$107/mo., (46 pmts.**) E-VALUE Code: 20259-S21239g

enhance your network.

DELL™ POWERVAULT™ 725N NAS

Optimized Fila Storage Across the LAN

- Intel[®] Celeron[®] Processor at 2GHz
- Microsoft® Windows® Powered Network Attached Storage
- . 3B4MB DDR SDRAM (Up to 3GB)
- 4x40G8 (160GB) IDE Hard Drives Up to 1TB of Internal Storage Capacity

\$1799 as low as \$49/mo., (46 pmts.**) E-VALUE Code: 20259-S21217

DELL/EMC

If you have more than 300GB of storage, visit www.dell.com/storage4mybiz for low prices on Dell/EMC storage arrays.

Services

Purchase

Dell offers a wide range of reliable, award-winning technology, all delivered from a single point of contact—and our expert sales associates are there to help you find the technology that's right for your business.

Installation - Starting at \$279

Once you've selected the right technology, Dell can help you get it up and running quickly and cost-effectively with our custom on-site installation and configuration services

Training&Certification—Starting at \$100/person

After installation, Dell can help turn your employees or IT staff into experts on your new technology through a variety of training and certification courses—helping increase your business' long-term productivity.

Service&Support

The support doesn't end at the sale. Dell's award-winning service and support offerings help ensure that your new network remains up and running-with Web, phone or on-site service3 and support.

Network Switches

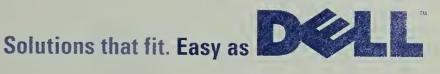
Scalable, high-performance switches to enhance your network,

POWERCONNECT™ 3324* SWITCH

High-Performance Workgroup Switch

- 24 Fast Ethernet Ports plus 2 Gigabit Uplinks (2 Copper and 2 SFP Transceiver Combo Slots for Fiber)
- Stacking Functionality of Up to 192 Ports
- Advanced Network Management and Security Features
- Industry Standard CLI and Easy-to-Use Web Interface
- 3-Yr Next Business Day Advanced Exchange Service52 Standard

\$499 as low as \$14/mo., (46 pmts 30) E-VALUE Code: 20259-S11204



Click www.dell.com/bizsolutions Call 1-877-776-3355



Single Sign-on Effort Falls Short

With no input from IT security, a system is adopted that leaves out some apps and creates headaches. By Mathias Thurman

MANAGER'S

ust when I thought we had solved one set of IT security problems by getting the human resources department to properly train new hires, another has cropped up with our IT team and a new single sign-on system it has deployed. The system was designed without input from the IT security team

and at least one other department that will be affected. Now we're dealing with the issues after the fact.

The single sign-on project addresses a significant problem.

There are several ways for employees to log into different parts of our IT infrastructure, and each requires entering a separate set of credentials.

The single sign-on system will make life easier for users, giving them access to a broad set of applications and services with just one user ID and password.

The IT group has been talking about this for some time, but several obstacles have kept the project sidelined until now. The biggest was the fact that we bought Novell Inc.'s eDirectory directory services and iChain identity management software to handle the authentication of our People-Soft system.

But we also deployed Windows 2000, which uses Active Directory for authentication, and our Exchange server uses yet another directory structure

Unfortunately, these infrastructures were designed separately, with no common vision, so there's a lot of duplication. To make matters worse, none of these directories were mirrored in anticipation of a catastrophe. Sure, we backed up the data, but we didn't have another system on standby to take over the authentication process in the event of a hardware failure.

This week, the IT group and I finally began migrating users

to a single authentication system based on eDirectory that's fully mirrored, clustered and loadbalanced.

We mirror the data to another data

center, so in the event of a fire, malicious damage or other event, the alternate data center will automatically begin accepting authentication requests.

The No-Name Log-in

This new system makes logging in very convenient, except for one problem. Instead of logging in with our traditional usernames (we used a naming convention that closely matches each employee's actual name), we're using



Identifying the users requires matching the IDs to the users' names. It will be an annoyance and take a lot of time.

employee ID numbers.

Personally, I didn't even recall that I had an employee ID, much less remember the number itself. Until now, our IDs had been used only by the HR and finance departments for personnel tracking, so I was surprised when I received an e-mail stating that I must start using mine. Like other employees, I was given a week's advance notice and informed that I would also have to change my password.

The decision to use our employee ID numbers in this way has implications for the IT security team. It will end up creating more work for my group and some other groups, such as the IT help desk. Here's why: In our case, most of the audit and security software we use lets us view users by name. Because our log-in names are based on the users' real names, we can quickly match the person to the event when there's a problem.

With the new system, all we see is a number. Identifying the users requires the extra step of matching the IDs to the users' names. Given the frequency with which we'll need to do that, it will be an annoyance and take a lot of time.

Neither the IT security group nor the IT help desk was included in the decisionmaking during the design of the single sign-on system. Had we been involved, both groups would have voiced strong arguments against using employee IDs for this purpose.

While I don't yet know why the decision was made, I would certainly agree that there is a sense of anonymity in using numbers. Perhaps that was the driving factor.

So far, the problem isn't so bad, because only a few hun-

dred people have been converted to the new system. But soon the entire company will be using it.

Not-So-Single Sign-on

There's another problem with the new system: It's not inclusive of all our applications. For example, our software developers use a content versioning application that tracks changes in software under development. There are also a dozen or so external development sites, several of which are outside of the U.S., that use this system. To configure this application to use single sign-on would be a nightmare.

Also, the sales department uses CRM tools. Since the information this system contains is highly confidential, the IT team decided not to incorporate the sign-on for it in the enterprise directory.

Within the security department, we have RSA SecurID servers configured to authenticate systems and network administrators to resources within the infrastructure. It would be nice if we could tie that whole system into the enterprise single sign-on application, but we would have too much to lose if there was a security breach.

We use SecurID for access to our most critical systems, which are responsible for our revenue and corporate image. But for now, we are going to keep all of these specialized environments separate from the environment that caters to the mass employee populace.

So, what's the lesson learned here? It's that even as my company and others throw around the term single sign-on, it's rare that an organization of our size can institute a true single sign-on environment that works for all applications enterprisewide.

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_ thurman@yahoo.com, or join the discussion in our forum: QuickLink a1590

To find a complete archive of our Security Manager's Journals, go online to computerworld.com/secjournal

SECURITY LOG

The Best Damn Firewall Book Period, by Cherie Amon, Thomas W. Shinder and Anne

Carasik-Henmi; Syngress, 2003

If you do any security consulting, you'll want to pick up this book – and you'll need to use both hands because it has 1,200-plus pages and weighs about three pounds.

The Best Damn Firewall Book Period is an encyclopedic source of information on some of the most widely used firewalls, with extensive details on Cisco PIX and Check Point firewalls. The authors provide so many details that you can completely install, configure and go live with one of those brands without using any other documentation. One caveat: The book covers only newer versions of these firewalls; users of older products should look elsewhere.

I have a few quibbles. For example, the increasingly popular NetScreen firewalls aren't covered, and the chapter on Snort intrusion-detection software is no replacement for a good Snort 2.0 reference book. However, users of newer PIX and Check Point products certainly can't go wrong with this title.

- Mathias Thurman

Check Point Offers New VPN-1 VSX

Check Point Software Technologies Ltd. has upgraded its VPN-1 VSX virtual private network security appliance. It now includes Check Point's Application Intelligence technology to protect against application layer attacks, as well as SmartDefense network attack protection and VPN-1 SecureClient for remote access and desktop security.

VPN-1 VSX supports up to 250 virtual systems running on one platform, according to Redwood City, Calif.-based Check Point. VPN-1 VSX is available now and starts at \$24,000.



i want to stop thinking about the threats that could fill my network,

and start thinking about the people that could fill this space.



Start growing your business securely with Intrusion Prevention Solutions from McAfee Security.

With a power of combination of McAfee System Protection and Network Protection Solutions, McAfee Security does more than merely detect known and unknown threats—it actually prevents them. From the desktop, to the network, to the server, the McAfee Protection in Depth strategy and our proven Intrusion Prevention technologies provide complete protection for the enterprise. So you can spend less time thinking about security issues and more time thinking about growth issues. Learn more today at start.mcafeesecurity.com

Because security is not just about what you can stop.



1.877.GO1AND1 WWW.1AND1.COM

THE WORLD'S #1 WEB HOST IS HERE TO HELP YOU DO MORE ON THE WEB

Part of United Internet, a public company with 3,500 passionate employees. Previously served only large providers in the USA & now serving end users directly. Completely focused on small businesses like yours since 1992. 2.5 million customers & the industry's lowest churn rates. 4 data centers operated in USA & Europe with 19,000 servers up & running. Own backbone with 12,000 Mbit connectivity. Truly interactive solutions including CRM & e-Commerce.

GET OUR BEST HOSTING PLAN — NORMALLY \$29/MONTH

3 YEARS FREE

LIMITED TIME PRE-LAUNCH PROMOTION SAVE \$1000 — NO COMMITMENT NECESSARY

PLAN INCLUDES: WEB SPACE 500 MB, 5x FTP, backups, Firewalls CONNECTIVITY 5000 MB/mth traffic, \$0.99/GB only for additional traffic, 99.9% up-time guarantee EMAIL 50 POP3 accounts, Symantec virus scanning, Webmail WEBSITE FEATURES Live site statistics, log files, turnkey CGI-library, own CGI, FrontPage 2002 extensions, multiple password protection, mySQL, SSL encryption, Cron Jobs, SSH, Developer tools SUPPORT 1&1 Express support

CRM/E-COMMERCE Form editor, Newsletter Management tools, one-on-one online dialogues, turnkey web database applications, Chats, Forums APPLICATIONS Template-ready online WebsiteCreator, full version NetObjects Fusion 7.0, Search-Engine Registration and many more worth \$300, absolutely free DOMAIN NAMES Register or transfer unlimited.com and other leading domains for just \$5.99 each per year, 50 sub-domains, point up to 100 domains registered elsewhere to this plan



Il'S FREE: No credit card needed. No obligations. No banners. No spam. No calls. Strict privacy.



IT'S SIMPLE: Upload your current site. Or, build a new one with template-ready WebsiteCreator.



IT'S FLEXIBLE: Upgrade your site with ready-to-run forms, chat, database applications and more.



and we'll give you a \$25 voucher for Google AdWords™.

THE CONFIDENCE TO OFFER 3 YEARS FREE. By creating this unique opportunity to test 1&1 risk-free, we are investing in you rather than additional advertising. You see, we believe you'll be so pleased with our services, you'll stay with us and even recommend us to your friends. Then after the 3 years, you can effortlessly switch to any 1&1 hosting plan ranging from \$5 to \$29. One plan per customer only. Promotion expires 1/14/04.





BRIEFS

Radware Releases Security Switch

Radware Inc. in Mahwah, N.J., last week announced the release of DefensePro, a high-performance security switch that's designed to handle multigigabit security switching, intrusion prevention and denial-of-service protection. DefensePro is available now. Pricing starts at \$25,000.

Mirapoint Updates Message Server

Mirapoint Inc. is releasing a new version of its Message Server e-mail appliance, called the 45-Series, and a new Message Director MD450 security appliance. Updates include replacing Intel Pentium III chips with more powerful Xeon processors, according to Sunnyvale, Califased Mirapoint. The Message Server line begins at \$15,000, while pricing for Message Director starts at \$25,000.

Beta for Speech Server Released

Microsoft Corp. last week released the second beta version of its Speech Server. The new beta can run multiple applications and adds support for Peabody, Mass.-based ScanSoft Inc.'s Speechify Text-to-Speech Engine 3.0. Also, Microsoft released the fourth beta version of its Speech Application Software Development Kit. The final versions of Speech Server and its accompanying software development kit are due in the first half of next year.

Proxim Offers Free Wireless Upgrades

Proxim Corp. this week will release free firmware upgrades for its enterprise-class wireless LAN access points. The upgrades will make it easier for IT managers to detect rogue access points and to centrally control power levels of access points, according to Sunsyvale, Calif.-based Proxim.

TOMMY PETERSON

Make Your List, Check It Twice

S'THE YEAR DRAWS to a close, we find ourselves surrounded by the festive traditions of the season. Jolly old elves and prancing reindeer have been trucked in and deposited on the manicured lawns of corporate headquarters and bask in the glow of the lights proclaiming "Season's Greetings" to passing motorists. Miniature trees and plastic candles twinkle

cheerfully in corners of offices and cubicles. There are way too many sweets everywhere.

Grown men and women in IT shops are making wish lists and formulating their justifications for having those wishes fulfilled. Of course, since they're preparing their pitches for the business side of the company instead of for a short, white-bearded guy with a body mass index of 35, their arguments rest on productivity

and ROI rather than on whether the geeks have been naughty or nice.

Those lists CIOs and other highlevel IT managers make of their spending priorities for the year ahead will be checked more than twice as their companies navigate into and through 2004. Toys for techies are gone from enterprise IT budgets, but technology investment is essential if companies are to move ahead or even keep up with the competition. In these budget confrontations, however, discretion is often the better part of valor. Below are my picks for the technology areas that IT managers should focus on for now if they want to avoid duking it out with their CFOs — and probably losing.

Storage, especially storage management. Storage falls a little short in the glamour department, but in an information economy, companies must have somewhere to keep and some way to manage all that information. Adding to the pressure is the growing array of state and federal



Computerworld's Technology editor. Contact her at tommy peterson®

and flexibility in storage resources. Management systems and virtualization software come with hefty price tags. But no one would accuse an IT manager of going for the glitz for proposing them, and storage is central to almost any business.

Storage also includes the

regulations requiring busi-

nesses to retain even more

information. As the mounds

of data grow, users demand

easier access to stored data

Storage also includes the backup and disaster recov-

ery technologies that ease the minds of everyone in the company fretting about terrorism, natural disasters and trees growing around power lines in Ohio.

■ Security. You won't have to fight for this one. Even through the past couple of years when the remnants of the technology bubble were unattractively splattered all over the economy, companies were spending on IT security. Antivirus software, intrusion detection and prevention systems and patch management systems are all essential investments — just make sure they are implemented along with well-crafted security policies and enforced best practices, which are as important as the technology.

Identity and access management systems that include provisioning and strengthened authentication mechanisms can increase productivity along with security in your organization.

■ Business intelligence and data warehousing. Carefully chosen and deployed business intelligence systems do the magic

trick at the heart of IT: They change amorphous piles of data into useful information and open an avenue to insights that can transform a business. Just be wary of the seemingly endless varieties of software that offer "real-time" monitoring of every peristaltic burble and hiccup in the enterprise, to no apparent business end.

■ Middleware and other integration technologies. Heterogeneous IT environments are a fact of life — even a blessing, say some. Companies that want to continue getting value from their legacy systems as they add new systems and applications will need the technology to link them together.

I fear that this list is the IT equivalent of the socks and underwear your mother always gives you. But these are the essential technologies, the ones in which your company can't afford to fall behind. This isn't the year to ask for the pony.

The adoption of wireless is inevitable, and the technology has already penetrated to the center of some industries, but for most businesses, it's still a novelty.

I'm convinced that Web services will eventually transform IT, but the technology still operates at the margins, maybe because the standards stack is still in flux. Or perhaps because infrastructure-level Web services are just beginning to receive attention.

Certainly take a hard look at opensource options when you're shopping for technology.

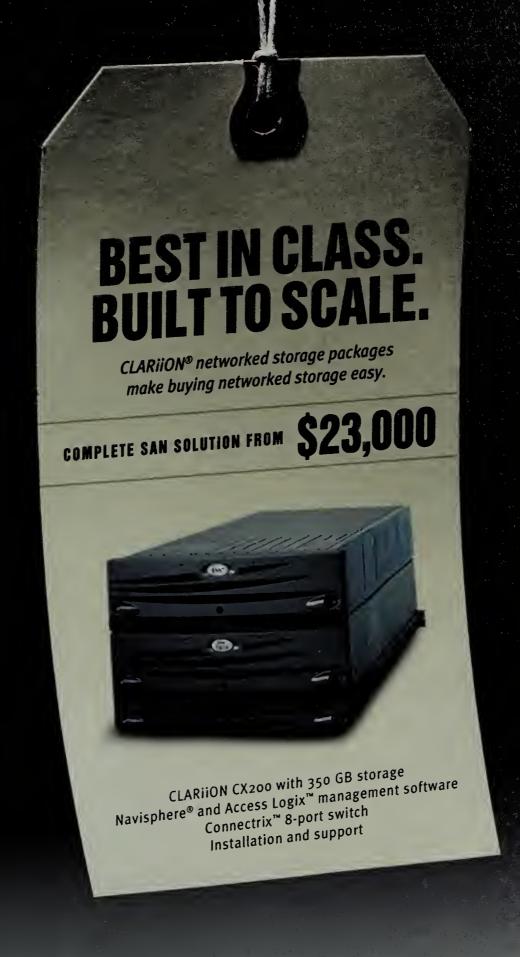
Keep an eye on voice over IP, the return of CRM, and new search and textmining technologies that will help you take a crack at squeezing some intelligence out of all that unstructured data piling up in your company.

And be patient. There's a good chance the economy will be stronger a year from now. The technologies will mature and improve. Maybe it will be time for the pony — or at least the latest version of PlayStation. • 43260

WANT OUR OPINION?



For more columns and links to our archives, go to www.computerworld.com/opinions



EMC²

EMC has everything you need to create a network-ready, direct-attached, or SAN environment at a surprisingly affordable price. CLARiiON networked storage packages are complete hardware, software, and service bundles that feature EMC's award-winning technology and SAN switches from Brocade. Now at prices that can help you safeguard your budget as well as your information.

Just visit www.EMC.com/CX200 or call 1-866-EMC-1500 to get started.



Find an authorized EMC Velocity² Partner at www.EMC.com/velocity.



Get on the best growth path in storage.

SIMPLY EASIER

FIREPASS° SECURE REMOTE ACCESS

If you have ever tried to deal with secure remote access you know what a challenge it can be. But now there is an easier way to give employees, customers, and partners secure remote access. It's FirePass from F5 Networks.

FirePass is a powerful solution that allows your users to get remote access to critical applications and data from any Webenabled device or location—without compromising the security of your network.

FirePass provides simple, secure and reliable remote access.

- Controls the level of application access based on the type of user and device.
- Leverages your existing authentication servers to validate and authorize user access.
- Requires zero changes to your existing application servers and takes minutes to deploy.
- Simplifies remote access for everyone with no clients to configure and little or no user training.

Now employees, customers, and partners can securely access authorized applications from any Web-enabled device at any location.

Simply put, it's easier.

Learn more with a FREE guide to secure remote access and an online demo. Visit www.f5.com/FirePassCW or call 1-866-885-9201 today.



CONTROL YOUR WORLD



MANAGEMENT

OPINION Behind the Eight Ball

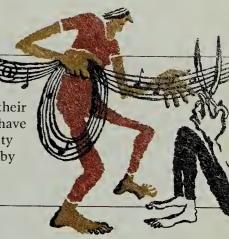
Bart Perkins says the big outsourcers are being undercut by smaller upstarts. It's bad news for giants like IBM and EDS, but it could mean falling prices for their clients. **Page 54**

The Pros & Cons of CMM

Outsourcers tout their high Capability Maturity Model ratings, yet many U.S. companies can't take advantage of that quality and end up paying for more than they need. **Page 50**

Preventing P2P Abuse

Corporate IT managers can learn from their counterparts on college campuses who have become experts in combating the security and network overload problems caused by peer-to-peer file swapping. **Page 52**





A brain drain is coming when the economy improves, and your top IT talent may be headed out the door.

A Sea Melymuka

ALF YOUR IT MIDDLE managers may be planning to quit as soon as the economy improves. Recent surveys and anecdotal evidence indicate that many have already checked out psychologically and are just waiting for the chance to move on. If you don't prepare for this exodus, when the money loosens up and IT initiatives begin to flow, you may find that you lack the talent to deliver.

The impending IT brain drain is "one of the dark secrets of the industry right now," says Vaughan Merlyn, an analyst at The Concours Group in Kingwood, Texas. "Wherever I go, the grumbling amazes me. I see it all the time."

"People tell me awful tales about working, and their loyalty is shot," adds Tom DeMarco, a consultant at Cutter Consortium in Arlington, Mass., and author of *Slack: Getting Past Burnout, Busywork and the Myth of Total Efficiency* (Broadway Books, 2002). "The problem is that they're all liable to leave at the same time."

A July 2003 survey of 509 U.S. middle managers by Accenture Ltd. found that 38% are currently looking for another job and 10% plan to go job hunting when the economy improves. Though the survey didn't focus exclusively on IT, Ed Jensen, a partner in the human performance practice at Accenture, says IT managers at various client sites have told him they're essentially already gone.

Late last year, another survey, by Spherion Corp. in Fort Lauderdale, Fla., and Harris Interactive Inc. in Rochester, N.Y., questioned 3,278 U.S. workers and found that 51% want to leave their current jobs (up from 33% in 1999). The dissatisfaction is even more pronounced in IT, where 40% of workers reported poor or fair job satisfaction compared with 28% of the total sample.

"There's a large amount of dissatisfaction out there," says Scot Melland, CEO of Dice Inc., a Webbased recruiting firm in New York. "Some of it might be fair and some a reaction to how the world has changed, but it's real."

A Seismic Shift

Job changing after an economic upheaval isn't unusual, but observers say recent history and a seismic demographic shift will make the coming phenomenon worse than in the past, especially in IT, where budgets have been axed particularly hard. "Many IT people were downsized, and those who remained find themselves literally overwhelmed," Merlyn explains.

"People are feeling used," DeMarco agrees, adding that baby boomers remember similar treatment dur-

Monal vs. Emergent Workers

The "emergent" worker crosses all boundaries of age, education, industry and company size, but IT workers are among the most emergent, according to Spherion.

Here's how emergent workers differ from traditional employees:

DISGRUNTLED WORKERS

Computerworld's 2003 Job Satis-

faction Survey showed that there isn't much job satisfaction in IT. For the complete results, visit our Web site:

QuickLink a3810

www.computerworld.com

and tropial employee

Commits for the long term.

Wants employer to provide the career path.

Concerned with security, stability and clear direction.

Wants rewards based on seniority.

Thinks changing jobs can damage career.

Defines loyalty as longevity.

Emergent employee

- **Commits to perform now.**
- Wants responsibility for career path.
- Concerned with opportunities for learning and growth.
- Wants rewards based on performance.
- Thinks changing jobs can enhance career.
- Defines loyalty in terms of work contribution.

ing the downsizings of the early '90s, and many Gen Xers saw their parents laid off in those days. "So any loyalty they might feel is complicated by the fact their parents were screwed," he says.

As a result, Gen Xers came to IT expecting to work for many companies over the course of their careers. "They're much more open to saying, 'If I can't get it here, I'll find it elsewhere,' "Jensen says. "It's a different mind-set — a free-agent mind-set."

Since that ability to move has been curtailed by the tight job market, there's a pent-up desire for change, even among those with few com-

plaints, Merlyn says.

The Emerging Workforce Study conducted by Harris and Spherion, which has measured changes in workforce attitudes since 1997, has documented a significant shift. As late as 1997, 34% of workers surveyed still held "traditional" values that empha-

size long-term company loyalty (see sidebar above). This year, only 21% did, and in IT, only 9%. The rest held "emergent" or free-agent values, or were migrating in that direction.

Despite this shift, Spherion estimates that more than half of U.S. companies still use traditional management styles and as a result are in danger of losing their emergent workers at an even higher rate.

Replacing IT workers who leave won't be as easy as it looks, DeMarco says. "The buffer of unemployed IT people could be hired up in the first two or three months," he notes, "and workers in IT are not fungible." Those available are disproportionately generalists without the skills you'll be looking for, he says.

Besides, you'll need to do more than replace; you'll need to grow.

The U.S. Bureau of Labor Statistics forecasts that the top five fastest-growing job categories through 2010 are all in IT: software applications engineer, support specialist, systems software engineer, network and systems administrator, and network systems and data communications analyst.

Meanwhile, the vanguard of baby boomers will soon be reaching retirement age, and the numbers to

replace them just aren't there. According to Harvard University economist David T. Ellwood, from 1980 to 2000, the "prime-age" workforce — 25 to 54 — grew by 54%. Over the next 20 years, it will grow by only 3%.

"We're in the middle of a major demographic shift," says Jensen. "It's one thing to say people are turning over, but the pool of talent that is available to replace them is tight, and that will drive the price up."

In fact, the cost per hire has increased nearly 71% since 1998, according to the Saratoga Institute Inc., a

Santa Clara, Calif.-based human resources unit of Pricewaterhouse-Coopers. Spherion estimates that the cost of replacing lost emergent workers could be about \$1 million for an IT group of 100. And that's assuming you can replace those who leave.

Given all these impending pressures, the postrecovery decampment

will be happening at the worst possible time. "The problems that arise are myriad: the loss of knowledge in the organization, managing the workload, disruption as people leave and the expense of replacement," Jensen says.

Heading Off the Exodus

Despite the convergence of risk factors, some IT managers may be blindsided by the exodus because when jobs are scarce, people don't complain. "People might grumble around the cooler with colleagues, but they probably don't grumble upwards," Merlyn says. "You keep your head down and lay low."

But there are things you can do to assess and mitigate your risk.

- Look for signs of unhappiness, and draw managers out on how people are feeling.
- Check confidential employee surveys for signs that IT employee engagement has gone down. "That could be a leading indicator that people may move on when things turn around," Merlyn says.
- If you can't survey the entire IT workforce, try to conduct spot surveys on one or two issues, or put a few questions on an employee portal to identify segments of your IT organization that are particularly disenchant-

ed, Jensen says. "Then you can take more targeted steps to deal with the [potential] loss of key people."

- ees understand and can handle the fact that the economy is tough," Jensen says. "They want to feel part of the process and understand why decisions are being made."
- **Cancel overtime.** "Constant overtime is a deadly cause of burnout and the sense of being used," De-Marco says.
- Hire now. "You have to be ahead of the curve in the staffing work that's going to have to be done," DeMarco says. By taking extra work off people, you may change their minds about leaving. Even if they do leave, each person you hire now is one you won't have to hire later in a tougher, more expensive market.
- Know your "A" players, and make sure you're doing everything you can to keep them happy, Merlyn says.
 - Get your people focused on the future.

Even with a limited budget, you can generate excitement and optimism, Merlyn says. Engage your "A" players in rethinking the vision and strategy, repositioning the team, upgrading skills and adjusting roles. If your company has been laying off people and just shifting the work to others, you may find redundancies that can be eliminated to take the pressure off and move the survivors on to higher-value activities.

Even if you're not able to move ahead on a growth agenda yet, he says, strategizing and planning "feels constructive, and it gets people engaged in thinking about an optimistic future rather than a pessimistic present." • 43001

Melymuka is a Computerworld contributing writer. She can be reached at kmelymuka@yahoo.com.

Warning Signs

Computerworld's 2003 Job Satisfaction Survey uncovered the kind of grumbling that will lead to an IT brain drain.

42% said they're dissatisfied with their companies.

56% reported that their level of satisfaction with their companies has decreased compared with one year ago.

69% don't think they're working to their full potential.

55% said they're dissatisfied with their opportunities for advancement.

82% reported finding their work stressful.

59% reported being more stressed out than they were a year ago.

50% disagreed with the statement, "My employer is successful at building employee loyalty."

Base, 936 respondents (IT workers, managers, consultants and contractors)



Rational software. Through market-leading tools and proven best practices, Rational offers the expertise to improve your software development for on demand business. Your teams can quickly build, customize and integrate new and existing applications. Open solutions built to be scalable and reliable — for immediate business value. For customer successes, visit **ibm.com**/rational/seeit

IBM. the e-business logo and e-business on demand are registered trademarks of International Business Machines Corporation in the United States and/or other countries 2003 IBM-Corporation. Rational is a trademark of International Business Machines Corporation and Rational Software Corporation in the United States, other countries or both Cortain information within this advertisement is based on reported customer experience with IBM products noted at ibm.com/rational/seeit, IBM does not guarantee comparable results.

THE PROS & CONS OF

Outsourcers tout their Capability Maturity Model ratings, but they may be overkill for some clients. BY JULIA KING

WHAT'S IN A CMM RATING?

Does hiring a CMM Level 5 service provider guarantee that an outsourced software project will come in on time and on budget?

Will a higher CMM rating automatically mean higher costs?

What impact does earning a rating have on software quality?

These are just a few of the questions confronting IT managers charged with contracting out an increasing volume of application development and maintenance work to lower-cost offshore outsourcers.

Developed by the Software Engineering Institute (SEI) at Carnegie Mellon University in Pittsburgh, CMM - is a set of rigorous standards for

software development that's based on five levels. Of some 70 companies worldwide that have publicly acknowledged reaching the highest rating of Level 5, about 50 are in India, according to the SEI and Gartner Inc.

Not surprisingly, these Indian outsourcers aggressively tout their CMM rating, marketing themselves as topnotch developers with standardized. repeatable processes in place for delivering the highest quality software. Executing standardized processes also works to keep down costs, enabling Level 5 providers to pass on additional savings to customers, according to

- short for Capability Maturity Model

Sangita Singh, head of strategic marketing at Wipro Ltd., an Indian outsourcing company with U.S. headquarters in Santa Clara, Calif.

Research confirms that higher CMM levels correlate with fewer software defects (see chart below). But the highest CMM rating doesn't necessarily guarantee the greatest savings for customers. "The data on quality and maturity levels shows there is a definite improvement in costs and [on-time project completion] schedules," says Bill Peterson, program director for software engineering process management at the SEI. "But whether the supplier passes the savings on to the buyer, we don't know. That's more business than anything to do with the logic of costs.

"What we are saying is that as a Level 5, [suppliers] are better and they're able to charge more, not less," Peterson adds.

At the same time, a Level 5 CMM rating comes with no guarantees, and in some cases, it may even be overkill,

"CMM is a great discipline, and it is a great designation to have," says Bart Perkins, a Computerworld columnist and managing partner at Louisville, Ky.-based Leverage Partners Inc., which helps CIOs manage IT suppliers. "But the reality is that if an out-

CMM SUNSET

The Software Engineering

in favor of a new version,

called CMMI:

Institute is phasing out CMM

sourcer is at Level 5 and the client is at Level 1 or 2, the client doesn't have the internal discipline to take advantage of the Level 5 provider's standardized routines."

QuickLink 42950 Defining system or projwww.computerworld.com ect requirements is a prime example. "With CMM, the entire requirements process is very rigidly defined. A Level 5 requirements document is very detailed and explicit and has metrics associated with it," Perkins explains. "But a company at a CMM Level 0 or 1 could have their requirements on the back of an envelope and no metrics. The Level 1 companies are lucky if they write out two pages."

The upshot, says Perkins, is that touting a CMM Level 5 rating to a Level 1 buyer "comes down to touting a feature that's of little value. It's like a car salesman in Alaska touting a car's great air conditioning. It may be great, but you can't take advantage of it."

Yet some companies, such as Farmers Insurance Group in Los Angeles, contract with Level 5 outsourcers exclusively, even though they may be unable to reap all of the benefits of doing so.

"The CIO dictated that we only do

CMM Checklist

Questions to ask your outsourcer about its ratings under the Capability Maturity Model:

What was your last published assessment level?

When did that occur? (After two years, assessments are out of date, the SEI says.)

Who performed the lead assessment?

Who was on the assessment team?

What improvements have you made since the last assessment?

business with CMM Level 5 partners. It was a way of distinguishing the best companies from the rest of the pack," explains Alan Stanley, a program manager at Farmers.

"Beyond that, we don't take advantage of CMM. We tend to dictate how we want work done. We allocate work and processes based on what we do

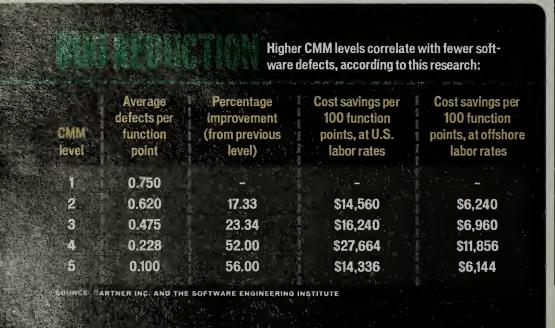
here, so I don't think we've really benefited from the CMM Level 5 side," he adds.

Helen Cousins, former CIO at Parsippany, N.J.based Cendant Corp., says she believes that hiring a Level 5 outsourcer is a way to raise the bar for your

own IT organization. "One of the things we gained out of necessity is the ability to more clearly define what we want," says Cousins, who is now CIO at Dex Media Inc. in Denver. "I've also noticed that when people working side by side are with people who are disciplined, it starts rubbing off."

But in a January 2003 report on the subject, Gartner analyst Partha Iyengar cautioned that users should also remember that CMM standards are descriptive rather than prescriptive, meaning that "they describe what must be done, rather than how it must be done." Consequently, a vendor can specify a certain way of executing a process that isn't the best possible implementation of that particular process.

In other words, Iyengar says, "CMM standards certification in no way guarantees that a vendor's internal implementation of these standards is bestin-class in any way." (42492





See information organized. See access personalized. See service recognized.

musee it?

IBM WebSphere, the market leader in portals, gathers information from multiple sources into one personalized view, so employees, partners and customers see what they need, when they need it. On demand, WebSphere is open, so it works with current IT investments. Combined with Lotus dynamic interaction, everything from customer loyalty to ROI starts looking up. For a portal InfoKit, visit **ibm.com**/websphere/seeit/portals

ISM WebSphere Large the e-business and e-business on betractive registered trademarks of International Business Machines Corporation in the Upited States and or other countries. In comment on about partial market shallers bested on new internal for 2002 from the Gartner report. IBM Has Top Share in All Application Integration, Middleware Markets (5)003 Gartner Inc. 2003 IBM Corporation, Air gets reserved.

Preventing for down and again to the form of the form

Corporate IT managers trying to curb illegal peer-to-peer file downloads could learn from their counterparts on college campuses. **BY JULIA KING**



dent for computer and information services at Temple University, makes it a point to ask students in the classes he teaches whether they swap peer-to-peer music and video files. He has yet to get no for an answer. With 33,000 network users, 5,000 of whom live on the Philadelphia campus, P2P file swapping has brought the university's network to its knees more than once, he says.

At the University of Florida, network services supervisor Rob Bird at one point last year recorded 3,500 simultaneous network connections to Kazaa, a popular P2P music site. That figure represents almost half of all students who reside on the Gainesville campus.

Colleges and universities are on the front line when it comes to combating the various computer security, copy-

right infringement and network overload problems that can result from users swapping massive P2P files. As a result, schools have been forced to come up with effective systems not only for detecting bandwidth hogs, but also for differentiating between legitimate and illegitimate P2P file transfers and pulling the plug on illegal activity. In several cases, their tools and tactics have resulted in a significant reduction in P2P headaches, making them well worth a close look by corporate IT managers, many of whom are facing the same problems.

Consider the University of Florida. Within an hour of implementing a homegrown network tool known as Icarus, network managers recorded an 86% drop in illegal P2P uploads to the Internet from the university's residence halls. Downloads dropped by 30%. School newspaper articles and

the student handbook had also informed students about the university's downloading policies and the disciplinary actions that would be taken against violators.

Icarus, short for Integrated Computer Application for Recognizing User Services, collects and combines data from all of the university's many disparate network management systems. Once combined, the information can

be analyzed in a comprehensive manner.

"We realized we had all of the [net-

work monitoring and management] tools we needed. We just needed to find a way to use them all together," Bird explains. "By collecting data in one place, we're able to detect application usage in new and unusual ways."

How It Works

Whenever Icarus detects P2P activity on the network, the software sends a pop-up message to the offending user's

computer. If the user is a first-time violator, he is auto-

ICARUS FAO

Get the details on the Univer-

sity of Florida's open-source

P2P file-restriction program:

Read about the latest ways schools are dealing with

QuickLink 43231 www.computerworld.com

QuickLink 42975

music downloading:

matically directed to an educational Web site that outlines the universi-

ty's network usage policy and specific details on his particular violation.

Second-time offenders are immediately restricted to on-campus Internet usage for a period of five

days. Third-time violators are cut off from all Internet connectivity beyond the campus and immediately referred to the university's judicial affairs office.

"We try to stick to campus restriction as the most severe punishment, to minimize the impact on academic use, because there's plenty of legitimate applications that need to be accessed by students," Bird says.

Since the start of the academic year in September, the system has uncovered 919 first-time offenders and only nine repeat offenders.

"It's been extraordinarily success-

In a July 2003 study of peer-to-peer file sharing at 560 companies,
Ottawa-based AssetMetrix Inc. found that employees at of those companies had engaged in Web-based file sharing during the previous 14 months.

ful," Bird says, adding that the university plans to release the application as an open-source project in the spring.

Differentiating between legal and illegal P2P files can be difficult for network managers, since most colleges have policies against viewing the content of files. The University of Miami in Coral Gables, Fla., keeps it simple by limiting all students to a maximum of 48MB of dedicated bandwidth.

"We tell them to use it wisely to do whatever they have to do. That could be downloading images from medical journals, or videos related to school communications," notes CIO Lew Temares. It also could be swapping music files, Temares concedes, which is why the university has implemented two network filters that sniff file transfer protocols and eliminate those with the known characteristics of P2P files that the university has identified as illegal. These include sites like Kazaa and Blubster that are primarily for downloading music.

At Temple, administrators are considering going a step further and implementing a policy that would deny

hardware and software support to students whose computers contain illegal P2P programs and files.

The university also recently purchased an enterprisewide license for Symantec Corp.'s Norton AntiVirus software, which all students are required to install on their computers

before they can tie into the university's network.

"I don't really want to work on [a computer] it takes me six or seven hours to rebuild because it has all this junk on it," O'Rourke says. "The Welchia [worm] alone has cost me at least \$400,000 in the last month just in time."

Chuck Linebaugh, director of information systems at Chicago law firm O'Hagan, Smith & Amundsen LLC, says corporate IT managers like him have somewhat more leverage over employees than university network managers may have over students. Linebaugh's firm locks out all P2P application programs and conducts weekly checks on all files for any illegal P2P activity.

Still, he keeps a close eye on the precautions that other IT managers, particularly university network managers, are taking on the P2P file-swapping front. One big reason, he notes, is self-preservation. "If we're investigated and files downloaded by users are on our network, we're liable for that," Linebaugh says. • 4311



See how much storage you have. See how much storage you need. See it adjust without doing a thing.

Can you see it?

Tivoli Storage Management helps optimize your storage systems. Underutilized space is automatically identified. Nonessential data is easily eliminated. It's an integral, affordable complement to server consolidation, and it's compatible with most current storage systems. For more on this award-winning software and to download Tivoli Storage Resource Manager trial code, visit **ibm.com**/tivoli/seeit/tsrm

BM. Evoli, the e-business logo and e-business on demand are registered trademarks of trademarks of International Business Machines. Corporation in the United States and/or other countries. Certain testrictions will apply to your use of this software. Winner, ARC Award, August 2003: Please visit the Web site for governing terms and conditions. Your results may differ 2003 IBM Corporation. All rights reserved.



WATTERSON joined Martin Marietta Materials Inc. in 1999, his job was to replace the old mainframe and software with a new IT architecture that could handle explosive growth:

40-plus acquisitions in the past five years. As a result of his success, Watterson has been promoted to CIO at the \$1.7 billion company, which was spun off from Martin Marietta Corp. in 1994. He spoke with Jean Consilvio about the importance of IT at the producer of construction aggregates in Raleigh, N.C.

Your IT staff seems small for such a large company. The core, 43 people, are in Raleigh, and the rest provide local support to the divisions. The infrastructure we've put in place, the [J.D. Edwards, now PeopleSoft] products and ERP system we've chosen have all been low maintenance. We did everything we could with packaged software, and we customized as little as possible. The objective has been to keep the costs and burden of IT down for the company.

Are you all rolled out? We kicked off in November 2000, and we just finished in October.

Do you use wireless technology? We're experimenting with it at some of our quarry facilities, where getting hard wire out to a quarry can be difficult. We're using a lot of VPN technology.

How is that working out? Very well; it's a good, low-cost alternative. We have 340-plus locations throughout the U.S., Nova Scotia and Bahamas, and we get into some rural, remote areas where we may have just five people working at a location. To put in a full frame-relay network connection is not cost-effective.

Have your responsibilities changed since you were vice president of information systems? Not very much; [the promotion was] a recognition of the importance that IT has within the company and somewhat a recognition of the major transformation we've made over the last three years. The aggregate industry has largely been a lowtechnology business. • 43232

BART PERKINS

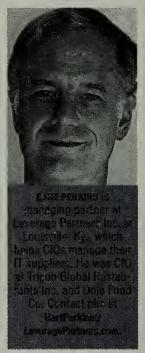
Behind the Eight Ball

HE SAFEST OUTSOURCING OPTION has been, and continues to be, the large U.S.based operations such as IBM, Electronic Data Systems and Accenture. However, these big outsourcers are facing serious challenges and finding themselves behind the eight ball. Newer, smaller firms have changed the rules and are forcing the big guys to play catch-up. The new entrants are stealing business by offering dramatically lower prices, thus creating a price floor against which the big companies have to compete.

There are three main reasons for the price differential. First, the upstarts can undercut traditional outsourcers' prices because most of their technical staffs are located in lowercost countries. The price difference is enormous, often as much as \$180 per hour vs. \$25 per hour. But beware. Quoted rates don't provide a true apples-toapples comparison. Be sure to calculate the total cost of outsourcing, reflecting all the costs of managing an offshore outsourcer. Even after proper pricing adjustments, the difference is still huge.

Second, the administrative costs at the newer firms are much lower. They've designed their processes from the start so that as much administrative work as possible is performed offshore. For example, at one company, when expense reports are submitted, they're immediately scanned into a computer system and then sent overseas electronically. The originals and the receipts are filed domestically, as required by the IRS, but the review, approval and reimbursement processes take place offshore.

Third, the management structure at the new outsourcers also costs less,



since a high percentage of their managers are based in the same countries as their technical staffs. The price differential is even greater in the executive ranks.

In all three cases, lower wages mean lower costs, and the new firms are willing to pass a large percentage of these savings on to their customers. Historically, the big outsourcers have resisted going offshore for similar savings in order to protect revenues and profits. Forced to do so now, the question is how quickly they can

adopt some of the newer entrants' approaches and use more offshore labor. But there are complications.

If the big outsourcers use cheaper offshore technical staffs, they will have to share the savings they reap with their customers to remain competitive. The resistance to doing so isn't merely greed but fear of affecting the stock price, since lower billing rates result in lower revenues and earnings. It takes a lot more business to get the same revenues when average domestic billing rates are six or seven times the going rate for offshore work. In order to keep revenues stable, the big outsourcers must find a

great deal more business to cover the gap. This is an enormous undertaking in today's economy.

In addition, they'll have to reduce their administrative costs, which will mean re-engineering many of their administrative processes. This is timeconsuming and extremely expensive and presents yet another hit to the bottom line.

Plus, they'll have to address their high-cost management structures. In order to reduce management costs, big outsourcers could conceivably lay off high-level executives. Moreover, if growth stalls, they won't be able to dangle the carrot of promotions in front of top-notch staff members. The impact of this will be delayed, but significant.

Exactly how all of this will play out is unclear. Over the past few years, all of the big outsourcers have quietly begun to hire — and invest — in India. China and other lower-cost countries. Unless stopped by legislation or political unrest, they'll continue to expand their offshore staffs.

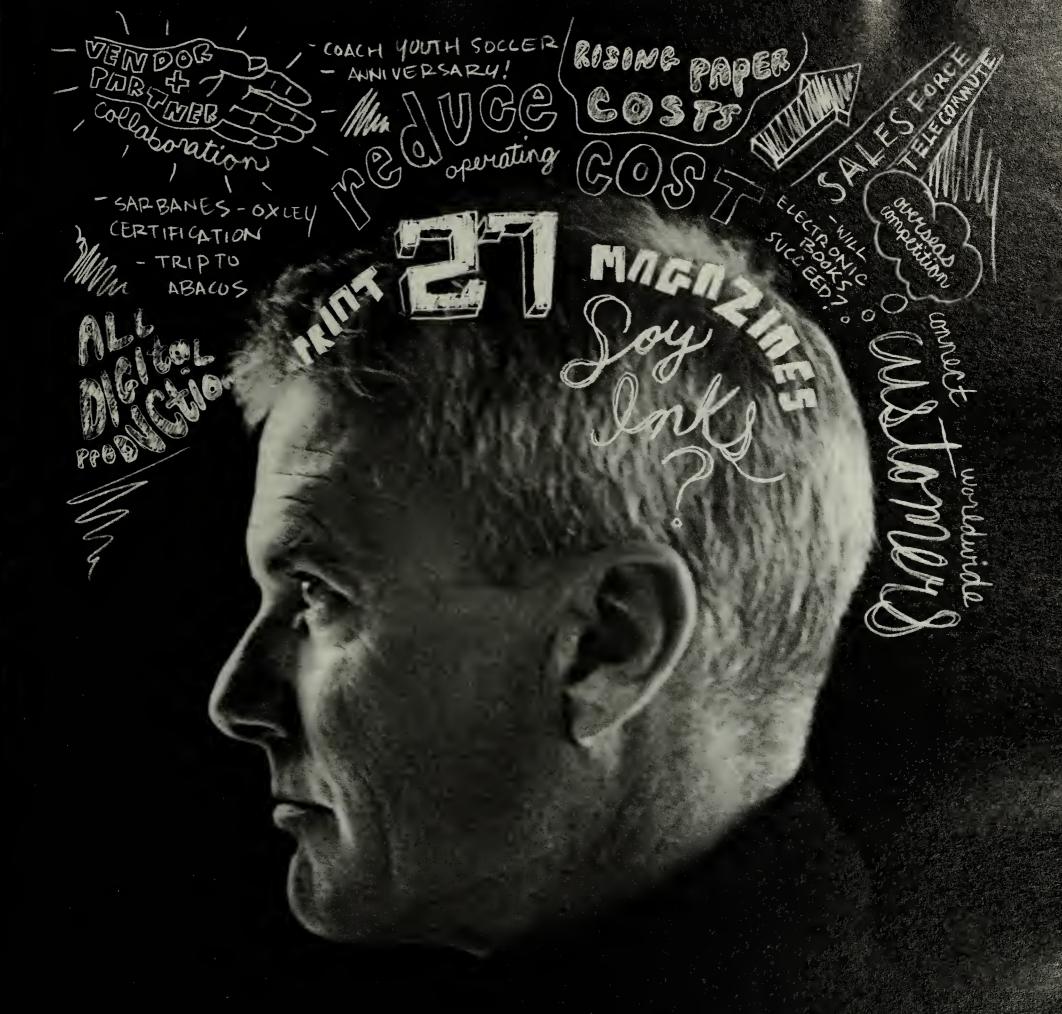
Each major outsourcer will likely address the resulting problems differently, but any solution is likely to create a great deal of internal turmoil. Some U.S.-based outsourcing units will probably spin off from their mother companies, deciding they're better off without corporate overhead and corporate angst. The boutique firms they create will provide further competition. Meanwhile, watch the big players for restructurings, reorganizations and fluctuating stock prices.

Buyers who are currently using or negotiating with the traditional outsourcers may want to keep contract lengths reasonably short and build in flexible pricing terms. This will allow buyers to take advantage of future price drops as competition intensifies. **Q** 42972

WANT OUR OPINION?



For more columns and links to our archives, go to www.computerworld.com/opinions



SECURITU SETS 400 Security is the last thing on this Chief Security Officer's mind. That's because it's the first thing on ours. Armed with real-time information and response capabilities from VeriSign's Intelligence and Control. Services for Network Security, he can now take the initiative. Play offense, rather than defense. Focus on the kinds of projects that will keep his Fortune 500 publishing company competitive, like establishing a global VPN. And reducing operating costs. Now he can think freely. At least until an editor calls, wanting to stop the presses.



To learn more about VeriSign's new Intelligence and Control Services for Network Security, visit www.verisign.com

Advertising Supplement

IT Careers: Projected Hiring Surge Drives Online Learning

While no one expects a replay of the hiring craze of 1999 and 2000, most business leaders are forecasting an increase in hiring for technology workers in 2004. The surge will demand a cross between sophisticated technical skills and business intelligence, according to staffing and professional development leaders.

There are two very different needs in terms of ongoing learning. The first is business knowledge and expertise, which most universities are poised to provide. Suzanne Gordon, vice president of information technology at SAS Institute, says that in research and development consulting, employees need advanced degrees in computer science, statistics or operations research. There also is a need for the cross section of business know-how with technology -- such as combining an information technology or computer science degree with indepth knowledge of economics, financial services or the healthcare industry. Again, schools universities are best poised to provide the advanced study that a technical professional needs to lead development and

specific business problem.

Programmer Analyst. Sought by Englewood Colorado consulting company to work in various unanticipated locations throughout the U.S. Duties: Analyze, plan, develop, test and document computer programs including network communication programs. Evaluate user requests grams. Evaluate user requests w/contract grams. Evaluate user requests and software program require-ments for new and modified pro-grams. Write specifications code, test and debug compute-programs. Customize hardware programs. Customize hardware and software to client needs. Use of Visual Basic, C++, ASP, ActiveX, HTML, SQL Server, VBScript Developer 2000 and Windows NT. Reqs. Bachelor or equivalent in Computer Science, Computer Engineering, Engineering (any field) or related field of study. Plus 2 years in the job offered or 2 year in a related occupation, including Senior Software Engineer. \$75,000/year, 40/hrs/wk, 8AM-5PM. Respond by resume to Respond by resume to EMPLOYMENT PROGRAMS, PO Box 46547, Denver, CO 80202, and refer to Job Order No. CO5061381. Corporation, 7007 E. Spragu Rd., Independence, OH 44131 No calls. EOE.

SOFTWARE ENGINEER SOFTWARE ENGINEER (Alameda County) to analyze, design & modify computer software for precision laser & GPS manufacturer selling into inticivil engrg & construction industries; create & analyze software for use in connection w/company's survey, machine control. ny's survey, machine control & laser products, utilizing C++ Visual C++, & CE o/s ir Windows; implement user inter faces in Windows desktop, CE PDA's & Embedded systems, & design user Help files & systems & generate user & product man-uals, utilizing MS Word, Adobe PageMaker or FrameMaker; 35 hrs/wk. Must have Bach's in Comp Sci, MIS or Electrica Engrg & 1 yr in job. Contact Trys, Inc., Attn: C. Goad, 5758 Pleasanton, CA 94588 & quote

implementation of projects that respond to a OH IT Consulting Firm seeks Manager mgment/design/development/in plementation/upgrade/mainteof mgmnt systems (CMMS); consult w/clients to determine client needs: assis negotiations and prep of client capital investment approval proposals; overse implementation of new system upgrade of maintenance to ensure the CMMS system is nstalled/running correctly. Mir exp. Bachelor's in Mech Engir or equiv. and 3 years in job/job related exp. including working knowledge of MS Project, MS Business Professional swre, at least 1 Aerospace ERP sware maintenance pkg (ie. Avexus Impresa or Visaer) and previous consulting exp. Travel req Resumes to Boyle International

> Senior Business Analyst/ Programmer Assist health orga-nizations develop the steps to comply with the HIPAA, assess the current environment, provide recommendations for achieving HIPAA compliance within the required time frames, and pro vide remediation assistance and vide reflictation assistance and training. Provide leadership and direction to project teams and client staff regarding HIPAA Privacy and Security. - 2 yr experience in using eXchange, experience in using eXchange, eGate, eInsight for implementing EDI transaction/Experience in using system development life cycle methodology approach/Experience with mainframe platform (COBOL, CICS, ADABAS, NATURAL VSAM, DB2 and JCL). Base Salary \$65000. Send application and resume to: LB Infosys. 1300 Edgewater Dr #306.Pierre, SD 57501.

The second area of study focuses on technology, but with the add-on of understanding people. "I would tell them to take courses and focus attention on hardcore computer science," says John Vlastelica, director of recruiting programs for Amazon.com. "We tell engineers to learn to view technology not as

an end in itself, but as a means to an end, which in our case is delighting customers.

Analyst/Project Programmer, Biomedical Information

Develops appropriate computer algorithms for data mining of advanced biological and chemical research data for the purposes of developing Bioinformatics and statistical data output, which will be used for various human vili be used for various human enetic research projects Reads and interprets research Reads and interprets research publications using basic principles in genetics, molecular biology and computational biology. Uses SAS, S-Pius or SYSTAT in conjunction with Bio-PERL, BLAST, UNIX, C++, and Fortran in performance of duties. Requires Master's degree or completion of coursework for Master's degree in Computer Science, Computing, or Biology. Education to include completion of nine credit hours in Bioinformatics. Send resume, oc alls to: Medical College of Wisconsin, Attn: Employment Wisconsin, Attn: Employmen Office - JMC1208, 870' Watertown Plank Rd. Office - JMC1208, 8701 Watertown Plank Rd., Milwaukee, WI 53226, Fax: 414-456-6502.

Systems Analyst: user requirements, procedures and problems to automate pro cessing or to improve existing computer systems. Must be Bachelor's able to travel. degree in computer science engineering, or math-related and 2 yrs. experience required in job offered. Included in, and not in addition to, the 2 yrs. requirement, 2 yrs experience in JAVA (JDBC, BEANS, RMI), COBRA, JAVA Script, HTMS ASP, CGI with Perland Oracle am - 5:00 pm; no overtime,

Apply by resume only to Human Resources Coordinator, Capricorn Systems, Inc. 3569 Habersham at Northlake, Bui ding K, Tucker, GA 30084.

Stanford Technology Partners Inc. is an Information Technology consulting company with its clients across the USA We seek an UNIX Solaris System Administrator. Dutie include systems administratio for global e-business reta exchange, scalability analysi and capacity planning, expertise on sun clustering with a strong focus on design and architec ture, assist with transition to colocation environments, establis and maintain close working rela tionships with application team and users in the design, devel opment, tuning, and problem resolution of systems, communi-cate effectively in meetings and discussions, maintain software license inventory and Perform emergency problem resolution.
If interested, please send
resume to: Stanford Technology
Partners Inc.289 Bostor Tumpike Suite #6 Shrewsbury MA 01545 e-mail u1545 e-mail recruiter@stpincusa.com

Seeking qualified applicants for the following positions in Orlando, FL: Senior Prog-rammer Analyst. Devise or modify procedures or perform the folk Orlando, systems/applications testing to solve complex problems considering computer equipment capacity, limitations, operating time and form of desired results. time and form of desired results. Requirements: Bachelor's degree* in computer science, MIS, engineering or related field plus 5 years of experience in systems/applications development and/or testing. Experience with Unix and SQL also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Sibi George, FedEx Corporate Services, 1900 Summit Tower Blvd., Suite 1400, Orlando, FL 32810. EOE M/F/D/V

Gordon agrees, saying that her IT employees tend to be life-long learners. "We hire people who love to learn technology. They do that through our in-house training, but also by learning on their own. These new technologies aren't usually available through

That's where online resources become important. Scores of companies and institutions are providing certification for a wide range of skills, from .Net to Java to XML. Hiring and management leaders also want employees to gain certifications in such areas as technology management, project management and security.

"Education is just one piece," stresses SAS's Gordon. "Some people have an innate ability to manage projects and people. Others need to learn." That's why she includes leadership in her list of learning priorities — bringing diverse people together to discuss a common situation or business problem, understanding the situation from a variety of angles, and then translating this into requirements that enable users and highly technical developers.

For more information about IT Careers advertising, please contact: Nancy Percival Vice President, Recruitment Advertising 800.762.2977 500 Old Connecticut Path Framingham, MA 01701 Produced by Carole R. Hedden



fellow readers are getting a jump on even more of the world's best jobs.

Now combined with CareerJournal.com, you have more jobs to choose from.

www.itcareers.com

Take the hassle out of

job searching and

check us out at

www.itcareers.com.

Today, more than ever,

the right skills fuel the

new economy and IT

Careers wants you to be

there. Check us out at:

www.itcareers.com

Research, design and develop computer software systems in conjunction with hardware product development applying princi-ples and techniques of computer science, engineering and mathematical analysis. Requires a Master in Computer Science Info Systems, Engineering or Mathematics. Requires 1-yr exp in job offered or 1-yr exp as Programmer Analyst, Systems Analyst or Systems Engineer Must have 1-yr exp using Active Server Pages and JavaScrip Various unanticipated location throughout the US. 5 day, 40 hr/wk, \$71,393/yr. Please mail resumes to Workforce Develop ment Programs, PO Box 46547 Denver, CO 80202 and refer to order number CO5062104.

You can find a better JOB with one hand tied behind your back.

Just point your

mouse to the

world's best

IT careers site,

powered by

Career Journal.com

Find out

more at:

itcareers.com

or call (800)

762-2977

Software Co. SI, NY Seeks Programmers w/following skills for their medical div; VB x/.net. embedded VB 3.0, SQL Serve 7/00, Oracle x, PL/SQL,ASP, Java, C++, IIS, Unix/Windows x & CE: Read Healthcare ind. knowledge, BS in CS/Engg/Bus. Adm w/5 yrs exp. for sr level & 3 yrs exp for jr. prgmrs in job offd. Send resumes to HR, Infinite Software Solutions, Inc., 303 Bradley Avenue, SI, NY 10314.

Network Administrators needed. Seeking qual, candidates nossessing BS or equiv. and/or rework exp. Cisco Cert. Design Assoc. & Cert. Novell Engg. certs. req'd, or in the alt., exp must include 1 yr. working w/Cisco & Novell NetWare. Fwd. resume & ref. to: Attn: 17 SJSU, 1 Washington Sq., AS House, San Jose State Univ., San Jose, CA 95192-0128

Computer Professionals (programmer, system analyst, software or project engineers) wanted by Bralak Technologies. Candidates must have at least BS/MS degree. IT experience in C/C++, Oracle, SQL, VB Java, Web Technology is a plus. Please send resumes to recruiter@bralak. EOE

CDI, one of the largest staffing CDI, one of the largest staffing companies, has multiple IT/Engineer positions. We require BS/MS or equivalent with exp. in the related fields. Good reference also required. We offer competitive salary with full benefit package. Please visit www.cdicorp.com to find positions.

Internet company seeks PhD Research Engineers responsible for innovative research. Interested applicants should send resumes to: K Wolfe; 1501 Salado: Mt. View, CA 94043. Visit www.google.com for additional information.

level IT professional positions including: Programmer Analysts, Database Administrators, Software Engineers, IT/Software Consultants, Systems Analysts. Qualified candidates must possess MS/BS or equiv. and/or rel. work exp. Some positions require 1 yr. or more SAP exp. Duties include: Work with 3 o the following: SAP, ABAP, XML Siebel, Oracle, C++.
resume & references Halcyon Solution, Inc., Attn: HR 950 Taylor Station Rd., #D, Columbus, OH 43230.

Programmer Analyst (2 positions) - Design and development of Electronic Data Capture Systems utilizing Formware, Infolmage and IFPS. Requires Bachelor in Computer Science, Engineering or Mathematics. Requires 2 yrs exp in job offered or 2 yrs exp as Software or 2 yrs exp in 50 hitered or 2 yrs exp as Software Engineer, Systems Analyst or Systems Engineer, Must have 1 yr exp in document imaging using Infolmage and 6 months exp in Formware and IFPS. Various locations throughout the Various locations throughout the US. 5 day, 40 hr/wk, \$75,150/yr Please mail resumes the Developmen DS 5 day, 40 nr/wk, \$75,150/yr Please mail resumes to Workforce Developmen Programs, PO Box 46547 Denver, CO 80202 and refer to order number CO5062126.

Infogen is seeking IT profession als. Req. BS. Skills in following area are plus: Oraclegi,
Weblogic / WebSphere, C++,
Visual C++, VB, COM, STL,
MTS, MSMQ, ASP, Java, HTML,
XML, MTS, MSMQ, ADO, UML.
Travel is required. Send resume infojobs@infogeninc.com

System/Programmer Analysts Software/Project Engineers of other IT professionals wanted by Imetris, an e-business solutions Imetris, an e-business solutions provider. MS/BS required. Skills in Oracle, SQL, Java, SAP, PeopleSoft, ERP tools preferred. Competitive wages. Please contact info@imetris.com. EOE.

Integrated Dealer Systems (St. Petersburg, FL) is seeking a DBA/Technical Trainer to design/maintain the company's SQL Server and train commercial customers on an EDI pack cial customers on an EDI package. Must have experience with RDBMS, MSAccess/SQL/ Universe, DataStage and providing technical training. B.S. in CS/MIS or equiv. + 1 yr. experience as DBA/Technical Trainer. Apply online at www.brunswick.com, Careers (search City "St. Petersburg"). Any questions to HR@IDS-Astra.com. Only candidates under consideration will R Systems, Inc. is a global information technology services company and it has multiple Joh openings for the following posi-tions at its corporate office in Sacramento as well as Projec throughout

- Applications Programmer
 Database Analyst
- Software Engineers Systems Analyst Network Analyst
- IT Project Managers
 Business Analyst
 Sales Engineer

- Programmer Analyst
 Sales Manager
 Database Administrators
- Market Research Analyst

Minimum requirement: Bach elor's degree or equivalent and one year experience in the job offered. All positions may involve relocation to project sites

Submit detailed resume and position applied for to

Attn: Venkatesh Sundararajan 5000 Windplay Drive Suite 5 El Dorado Hills, CA 95762

SR. PROGRAMMER ANALYST to design, develop, test a implement sftw. products apps. Develop integration Web services & Intranet projects, ebusiness Reports, database design & GUI screens using ASP.NET, VB.NET, C#, SOAP WSDL, DHTML, HTML, VB, ASP, Visual Source Safe, Visual Interdev, Visual Studio.Net XML, Oracle, Crystal Reports Actuate Reports, IIS & SQL Server. Perform unit & basic acceptance tests. Bachelor's degree/equivalent in any Engg disc./computer science/related field & 5 years of experience as IT professional required. Must have at least 1 year of course-work in computer science if degree not in comp. related field & at least 1 yr exp. in all above technologies, skills & tools. Will accept Master's w/2 yrs exp. in lieu of Bachelor's w/5 yrs exp. Apply to:Palayekar Co Inc 1959 E Third Street, Williamsport PA

MSYS, Inc. is an information technology consultancy built to deliver high-value business solutions for our clients. We are looking for the following position. Systems Analysts: Design, analyze and develop computer and business applications of existing and proposed systems. Knowledge in VB, ASP, JavaScript, SQLServer2000, .NET Technology, Web Design and Development, E-Commerce Services, XML, COM, Crystal reports, with back end databases like SQL Server and Oracle. Design client-server distributed Internet based projects, including e-Commerce applications. Need Bachelor's degree in Computer Science, Engineering, or related, and 2 years of experience. Send resume to: Human Resources, MSYS, Inc., 104 lowa Ln., Suite 201, Cary, NC 27511. E-mail: info@msysinc.com

Application Specialist/Unix AdmInistrator wanted by shipping
and container co. in Tampa, FL.
Must have a Bachelor's degree
in Comp. Sci., Eng. or related
field, plus 3 yrs. exp. with
Microsoft technologies; 2 yrs.
exp. in timplementation of
Web based (WWW) application
architecture and 1 yr. exp. with
Unix base middleware application such as LDAP and
Application Servers. In lieu of a
Bachelor's degree, we will
accept an additional 2 yrs. of relevant exp. Refer to Job#JL2003,
Lykes Lines Limited, LLC (CP
Ships), 401 East Jackson St.,
Suite 3300, Tampa, Florida
33602.

Looking for a new career?

The new itcareers.com and CareersJournal.com combined jobs database can help you find one. Check us out at: www.itcareers.com or call: (800) 762-2977 **ENGINEERING**

Software Engineers in Lincroft NJ to design, develop, code, test and implement web application for providing authorization authentication, delegated admir istration and secure seamles connection for secure services applications using J2EE and related Java technolo gies (JDBC, JNDI & JMS) TCP/IP and windows socket net working technologies and com ponent development tools such as COM, COM+ and Java Beans in Solaris and Linux environments; test web applications using Visual Cafe skills and deploy them on WebLogic plication Server 8.1 using J2EE technologies; Java and C/C++ programming languages to develop data communication and modem emulation software operating in Linux environments develop MS Outlook calendaring systems using CDO skills. BS in Comp. Sc. or Eng. 5 yr. post graduate progressively responsible work exp. as Software Eng For prompt consideration please submit your resume/C\ with the following codes included: AD-COMPUTER/12295BR Avaya Inc. P.O. Box 549248. Suite 188, Waltham, MA, 02454 9248. EOE

ENGINEERING

Software Engineers in Lincroft NJ to design, develop, code, tes and implement web applications for providing authorization authentication, delegated adm inistration and secure seamless connection for secure services platform applications using J2EE and related Java technologies (JDBC, JNDI & JMS) TCP/IP and windows socket net working technologies and com ponent development tools such as COM, COM+ and Java Beans in Solaris and Linux envi ronments: test web applications using Visual Cafe skills and deploy them on WebLogic Application Server 8.1 using J2EE technologies; Java and C/C++ programming languages to develop data communication and modem emulation software operating in Linux environments develop MS Outlook calendaring systems using CDO skills. BS in Comp. Sc. or Eng. 5 yr. post graduate progressively responsible work exp. as Software Eng prompt consideration please submit your resume/C\ with the following codes includ ed: AD-COMPUTER/12295BR Avaya Inc. P.O. Box 549248 Suite 188, Waltham, MA, 02454 9248. EOE.

Computer Programmer needed Consulting Firm located in Cedar Rapids, IA. include: Work as part of a team under the close supervision of senior team members, team eader and/or project leader assists in the development stallation and maintenance of arge computer software appli cations using: SAP, JAVA HTML, Weblogic. Applicant mus have a Bachelors Degree in Science, matics or Engineering or foreign equivalency. Applicant mus have 2 yrs exp. in SAP, JAVA HTML, Weblogic. Mon-Fri, 9:00 am to 5:00 pm, \$60,000.00/yr Must have proof of legal author ity to work in the US. Send resume and cover letter to: Iowa Workforce Center, 800 7th St. SE, Cedar Rapids, IA 52406. Please refer to Job Order IA1101820. Employer paid Information Technology

Systems Engineer

Meredith Corporation seeks ar experienced systems enginee to develop and support the inter active technology architecture directions standards, and Qualified candidate will have minimum of 2 years interne echnology and experience with a familiarity in ava-based technologies, UML XML, Java, EJB and relationa databases. ATG Dynamo a

Location: Des Moines, Iowa

Visit www.meredith.com fo more information on this exciting opportunity.

Send cover letter and resume to N. Rogers, Meredith Corporation, Staffing Services/Dept 386, 1716 Locust St., Des Moines, IA 50309-3023. Fax: (515) 284-2958. EOE



COMPUTER

Network Systems Administrators in Lincroft, New Jersey to plan design, configure, install and troubleshoot LAN/WAN as well as CRM and Siebel 2000, 7.0, and 7.5 e-business applications operating in Windows, AIX 5.x Sun Solaris, UNIX and LINUX R&D lab environment; instal integrate and administer MS SQL, Oracle and DB2 databas es operating in multiple environ ments; configure, install, admin ster and troubleshoot MTS MSMQ, MS Exchange, MS Terminal, IIS and Apache web servers: administer and trouleshoot Rational ClearCase Visual SourceSafe and related source control applications; and mplement back-up strategies using Veritas, Microsoft and Acrserv tools. MS in Comp Science or Electrical Engin eering. 3 yrs. exp. as Network Systems Administrator Systems Engineer. Willing to accept foreign educational degree. Willing to accept BS in Engineering plus 5 yrs of post graduate progressively responsible work experience. For prompt consideration, please submit your resume/CV with the following codes included: AD-COMPUTER/12341BR, Avaya Inc. P.O. Box 549248, Suite 188 Waltham, MA, 02454-9248.

SENIOR SOFTWARE ENGINEER to lead a team in the design, development, testing and implementation of application software using Oracle Applications (Financials, Projects, Internet Procurement, HRMS), Oracle Designer, Oracle Discoverer, ADI, PL/SQL, SQL Loader, Data Loader, SQL Navigator/Toad, PERL, and Shell Scripts on UNIX and Navigator/Toad, PERL, and Shell Scripts on UNIX and Windows 2000/NT operating systems; Supervise and mentor junior programmers and engineers. Require: Bachelor's degree in Computer Science, and degree in Computer Science, an Engineering discipline, or a closely related field with five years of progressively responsi-ble experience in the job offered or as a Software Consultant of Programmer Analyst. Extensive travel on assignment to var-lous client sites within the U.S. is required. Competitive Salary
Offered. Send resume to: Fred
Thomas, President, Elite Information Systems, Inc., 2021 Art Museum Drive, Suite 110, Jacksonville, FL 32207; Attn: Job NY.

Knowledge Mgmt Proj Consultant Partner w/customers to investi ate & analyze info, knwldg & colaboration regts to improve ability to leverage info & knwldg to inter-nal & external orgs. Determine & scope alternative solutions & related benefits to meet needs. Req. MBA & 5 yrs exp in job offered or 5 yrs exp consulting in knwldg mgmt. Bkgd in educ train'g or exp must incl proj mgm methodology, sales & mktg exp in electronic publishing or info solutions; competitive intelligence; managing or dev'g info knwldg, collaborative & e-leam ing solutions. Specific exp should incl external consulting to variety of clients & dev'g/delivery of inno-vative solutions for info & knwldg ngmt incl acquisition of externa content. Solutions should include web-based intranets or portals search engines, content source ing; collaborative, expertise & earning tech. Must have ability to comm & negotiate at all levels both internal & external to org (e.g. vendors): 40 hrs/wk; salar commens w/exp. Resumes to IT Careers, 500 Old Conn Path, Framingham, MA 01701, Box # 4868

Senior Programmer/Analyst: Analyzes, tests, modifies, and maintains customized computer applications in multiple operat-ing system client/server environment according to user require ments and procedures using Java/J2EE, XML, C/C++, Oracle, BC4J, Weblogic and WebSphere. Formulates program and system design proce dures, test plans, and development specifications Prepares technical documenta tion. May serve as team leader.

Must have BS or equivalent in related. Must have 2 yrs exp. in job offered or in act. job offered or in software development with C++, J2EE, Weblogic & WebSphere. Will accept a foreign degree evaluated by a recognized authority as equivalent to a bachelor's degree. Must be willing to be assigned to unanticipated client sites throughout the State of Maine. Salary: \$82,000/ yr. Hrs: 8:00am-5:00pm, 40/wk. Please send 2 copies of resume to Bureau of Labor Standards, 45 State House Station, Augusta Maine, 04333-0045 Please refer to Job Order #42750 for Programmer/ Analyst.

We seek exp'd IT professionals with min. 2 yrs. exp. using HP9000, Peoplesoft 8.4 Tools PS Internet Architecture, Supe C, SQA Suite, Object Security, SQR, etc. B.S C/S or Eng'g or Elect & Comm. reqd. Send resume only to Paramour Software Solutions, Inc., 3350 Riverwood Pkwy., Ste 1900, Atlanta, GA 30339.

N-Gen Communications Serv ices. Inc seeks the services of IT professionals with min. 2 yrs exp, using at least the following skills: OOAD using UML Modeling, Rational Tools, J2EE Tech., Service - Oriented Architecture and Web Services Technologies, etc. Candidates must have B.S. or M.S. in C/S or Engig. Please send resumes to P.O. Box 78856, Charlotte, NC 28271.

Medical Imaging Software Engineer - Must have M.S. in Computer Science or Bio nedical Engineering. To partici pate in the research and devel opment work of the company's new 3D image display product: Computed Tomography Laser Breast Imaging System (CTLM). Will be responsible for creating an interface software which wi integrate functions of scanne control, signal acquisition, image reconstruction, and patient data base. Will have the additiona responsibility of ensuring that all products are DICOM compati-ble, developing software for the Company's medical device product, developing utility pro-grams and tools to support other software engineers, and developing documentation as per the Company's software development methodology. Must be ment methodology. Must be familiar with C++, APi and SQL. Must have 1 year of image processing experience or gaming experience in the medical indus-Qualified candidates mus send resumes to !maging Diagnostic Systems, Inc, Trishia Firth, H.R. Manager, 6531 NW 18th Court, Plantation, FL, 33313.

Programmer/Analyst needed for Software Development, Serv-ices & BPO firm located in Burlington, VT. Job duties include: Analyze, design, devel op, code, implement and test computer software applica-tions/systems for clients located throughout the U.S. using Unified Modeling Language (UML) through Rational Rose Toad/SQL+ and Oracle in a Windows environment. Applicant must have B.S. degree in Computer Science, Business Mathematics or Engineering Applicant must also have 2 yrs exp. in the job duties described above or in any computer relat-ed occupation which includes the skills listed above. 40hrs/ wk, 9:00am - 5:00pm, M-F, \$60,000/yr. Send resumes to: Job No. 607940, P.O. Box 488, Montpelier, VT 05601-0488.

PROGRAMMER/ANALYST (2 positions) to analyze, design develop, implement and tes application software Oracle, Developer 2000, Visua Basic, SQL, PL/SQL, SQR, C, C++, Perl, CGI, Shell Scripting Java, JSP, Servlets and EJB or UNIX and Windows platforms Require: B.S. degree in Computer Science, an Engin eering discipline, or a closely elated field with two years of experience in the job offered or as a Programmer. Extensive travel on assignments to various client sites within the U.S. is required. Competitive salary offered. Apply by resume to Sudhakara Ravoori, Sai Technical Services, Inc., 626 Wendover Drive, Ridgeland, MS 39157; Attn: Job SA.

Support Engineer Requirements: degree + 2yrs exp in OS sup port, productivity apps, TCP/IP networking & printing. Duties Administer WINNT svrs & work stations (LAN/WAN) using SMS management tools. Develop & maintain automation scripts in Batsh & Visual Basic; MS Access databases for client supbases in HTML & Java, Assist w developing, deploying, user training & troubleshooting Report on network status & user satisfaction. Relocation within USA possible. Attractive comp pkg. Resumes to Susar Labandibar, Computer Ware Associates, Dorchester Ave., S. Boston, MA IT Careers COMSYS is an established IT consulting firm that serves lead-ing corporations including 174 of the Fortune 500. With COMthe SYS. SYS, you get: Extensive Benefits, Additional Compen-sation for referrals, and Professional Challenges with

training and assignments to keep you at the forefront of tech-nology. With 30 offices, we need the services of experienced con-sultants across the US:

- Computer Programmers Programmer Analysts Systems Analyst Software Engineers

- User Support Specialists
 DBA's
- Project Leaders

Submit resume to: COMSYS 3030 LBJ Freeway Suite 905 Dallas, TX 75234 www.comsys.com Fax: 972-960-0914 EOE/M/F/DV

Systems Analyst needed for Software Development, Serv-ices & BPO firm located in Burlington, VT. Job duties include: Analyze, design, develinclude: Analyze, design, develop, code, implement and test computer software applications/systems for clients located throughout the east coast. Will use JAM (JYACC APPLICATION MANAGER). JAVA C, POWERBUILDER, SYBASE, and SYBASE REPLICATION SERVER on both Windows and UNIX platforms. Applicant must have B.S. degree in Computer Science, Business, Mathematics or Engineering. Applicant must also have 2 yrs. exp. in the job duties described above or in any computer related occupation which includes skills listed above. 40hrs/wk, 9:00am-5:00pm, Mon-Fri, \$65,000/yr. Send resumes to: Job No. 607992, P.O. Box 488, Montpelier, VT 05601-0488.

We have various openings for Programmer Analysts posl-Programmer Analysts positions: Develop web based applications using IDE, tools used: SQL & PL/SQL or Development of applications in Clearcase, tools used: Java, C++, Perl, CVS or Programming using Oracle database, tools used: Oracle Warehouse Builder, Informatica Min Edu-BS in Comp.Sc./Engg or equi, Min Exp-2 yrs. Software Engineers-Design, develop and implement software systems, tools used: C, C++, Assembly, Java. Min Exp 6 yrs. Financial Analysts-Analyze using Oracle Database, C++, Assembly, Java. Min Exp 6 yrs. Financial Analysts-Analyze using Oracle Database, tools used: Oracle Warehouse Builder, Informatica Min Edu-BS in Finance or equi, Min Exp-2 yrs. Job may involve working at various locations throughout the US. Please send resumes to Attn: HR, Tekessence Inc. 1001 Office Park Road, Suite #107 West Des Moines, IOWA 50265

We know you're in demand. So demand the best environment for your growth IT consulting with an internationa leader. We're everywhere business and industry are, with offices all over the country. So you've always got a new set of challenges, with total support. We're currently recruiting the following pro-lessionals, including Programmers: Analyst/Programmers: Database Analysts; Application Oevelopment Specialists; Software Engineers; Quality Assurance Analyst; Network Administrators; Operations Specialists and Information Systems Coordinators

To apply for positions in any of our disrict offices, please visit our website at

www.ajilon.com

AJILON CONSULTING

An Equal Opportunity Employer

Business Objects has an open-ing for the position of Sr. Consultant to be based out of our Atlanta, GA office. The position requires a Bachelor's or foreign degree equivalent in Computer Science, Mechanical Computer Science, Mechanical Engineering, or related, plus seven (7) years' experience as a Software Analyst in Systems/ Database Administration or related. Experience must include: 1. Business Objects, including Foundation Architect and Administrator 2. Unix Administration, and 3. Business Objects WebIntelligence Architect and Administrator. To apply for a position, visit our website at www.businessobjects.com/careers or forward your resume (ref CW1203) to: Business Objects Americas, Attn: Staffing, 3030 Orchard Pkwy, San Jose, CA 95134. EOE

Database Administrator, Rutland, VT & various unanticipated client locations: Admin-ister & coordinate custom Oracle database on RAC: Data replication, Data Mining, monitor & tune performance in internal & external database in Oracle & Unix environment. Physical & logical database design. Determine impact of database changes on network & refine changes in whole cycle projec to implement security measu k transformation using JBoss LDAP, XML, XSLT & Warehouse Builder. Req. Bachelor's Computer science or Engin-eering or Maths or MIS+2 yrs exp in job offered. Sal. \$54,000/yr - 40 hrs/wk, Send resume to: Attn: Job No. 607997, P.O. Box 488, Montpelier, VT 05601-0488.

Database

We seek exp'd IT professionals & Functional Business Cons ultants / Analysts with min, 2 yrs. exp. in business modeling, interactive applications, etc. using Aviant 4GL, Cognos utilities, Informatica 4.7, Business Objects Tech., OWB, Oracle 8l/9i etc B.S.C/S. Bus Admin. or MIS or Economics read. Send resumes only to Paramount Software Solutions, Inc., 3350 Riverwood Pkwy., Ste 1900, Atlanta, GA 30339.

Senior Web Support Programmer for Internationa Company in Boston Metropolitan area. Skill requirements to include; Java, Javascript and JSP programming languages and two years of experience with the Windows NT and / or Sun Solaris operating systems Experience in hotel industry preferred. Forward resumes to Starwood Hotels & Resorts Worldwide, Inc., Department of Human Resources, 1515 Washington Street, Braintree, Massachusetts 02148 or by fax to (781) 380 0427

Want a new IT career?

Check out our jobs

in the combined

Career Journal.com

database.

www.itcareers.com

How to Contact

We invite readers to call or write with their comments and ideas. It is best to submit ideas to one of the department editors and the appropriate beat reporter.

Maryfran Johnson, editor in chief (508) 820-8179

DEPARTMENT EDITORS

Don Jennant, News editor	(508) 620-7714
Craig Stedman, assistant News editor	(508) 820-8120
Mitch Betts, Features editor	(301) 262-8243
Tommy Peterson, Technology editor	
Jean Consilvio, assistant Management editor	

REPORTERS
Bob Brewin, mobile computing/wireless; Intel PCs and servers; health care(505) 425-3551
Matt Hamblen, networking; network systems management; e-commerce(508) 820-8567
Thomas Hoffman, information economics; IT investment and management issues: careers/labor(845) 988-9630
Lucas Mearian, financial services; storage: IT management(508) 820-8215
Linda Rosencrance, general assignment; transportation/carriers(508) 628-4734
Carol Sliwa, Microsoft: Web services technologies; application development; retail industry(508) 628-4731
Marc L. Songini, ERP; supply chain; CRM; databases; data warehousing; EAI; CA(508) 820-8182
Patrick Thibodeau, enterprise systems; outsourcing and immigration issues; corporate antitrust issues (202) 333-2448

	critical-infrastructure security: travel	(703) 321-2277
	Jaikumar Vijayan, corporate security/privacy issu manufacturing	es:
	Todd R. Weiss, general assignment; Linux; messaging/collaboration	(717) 560-5255
	OPINIONS	
	Mark Hall, Opinions editor	(503) 391-1158
Ī	Frank Hayes, senior news columnist	
	FEATURES	
Į	Ellen Fanning, special projects editor	(508) 820-8204
ı	Robert L. Mitchell, senior editor	
l	Mark Hall, editor at large	(503) 391-1158
Į	Gary H. Anthes, national correspondent	
l	Julia King, national correspondent	(610) 532-7599
i		
I	COMPUTERWORLD.CO	***
ļ	Tom Monahan, online director	(508) 820-8218
ı	Sharon Machlis, managing editor/online	(508) 820-8231

Marian Prokop, online editor at large(508) 620-7717

David Ramel, e-mail newsletter/online editor at large....(508) 820-8269 John R. Brillon, associate art director.....(508) 820-8216

Dan Verton, federal/state government; legislation;

Ken Mingis, online news editor ...

David Waugh, associate art director.....

Peter Smith, Web development manager Kevin Gerich, Mark Savery, Web developers Bill Rigby, associate Web developer Matthew Moring, graphics designer

RESEARCH

Mari Keefe, research manager Gussie Wilson, research associate

COPY DESK

Jamie Eckle, managing editor/production	(508) 820-8202
Michele Lee DeFilippo, assistant	
managing editor/production	(508) 820-8126
Bob Rawson, Monica Samhataro	soniar cany aditore

Eugene Demattre, Mike Parent, copy editors

GRAPHIC DESIGN

Stephanie Faucher, design director	(508) 820-823
April O'Connor, associate art di	rector

Julie Quinn, graphic designer Susan Cahill, graphics coordinator John Klossner, cartoonist

ADMINISTRATIVE SUPPORT

Linda Gorgone, office manager	(508) 820-8176
Cheryl Dudek, administrative assistant	(508) 820- 8178

CONTRIBUTING COLUMNISTS

Pimm Fox, Michael Gartenberg, Dan Gillmor, Paul Glen, Thornton A. May, David Moschella, Bart Perkins, Nicholas Petreley, Paul A. Strassmann

CONTRIBUTING WRITERS

Mary Brandel, Russell Kay, Sami Lais, Kathleen Melymuka, Robert L. Scheier, Steve Ulfelder

50NICWALL INC.

GENERAL INFORMATION

TELEPHONE/FAX

Main phone number (508) 879-0700 All editors unless otherwise noted below Main fax number (508) 875-8931 24-hour news tip line... (508) 620-7716

E-MAIL

Our Web address is www.computerworld.com.

Staff members' e-mail follows this form: firstname_lastname@computerworld.com. For IDG News Service correspondents: firstname_lastname@idg.com.

LETTERS TO THE EDITOR Letters to the editor are welcome and should be sent to: letters@computerworld.com. Include your address and telephone number.

MAIL ADDRESS

PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701

SUBSCRIPTIONS/BACK ISSUES

Subscription rates: U.S., \$99.99/year; Canada, \$130/year; Central and South America, \$250/year; all others, \$295/year

Phone	٠.	 	٠,			(888) 559-7327
E-mail	٠.	 				. cw@omeda.com
Back issue	es.			,		(508) 820-8167

REPRINTS/PERMISSIONS

Contact	Renee Wywadis
	717) 399-1900, ext. 172
	nts@computerworld.com

COMPANIES IN THIS ISSUE

3COM CORP
ACCENTURE LTD 24,47,54
ALCAN INC
ALCATEL SA12
APPLIX INC10
ARTHUR ANDERSEN LLP34
ASIS INTERNATIONAL 8
BEA 5YSTEM5 INC
BIGFIX INC14
BPM PARTNERS INC
BUREAU OF LABOR STATISTICS47
BUSINESS SOFTWARE ALLIANCE16
CANADIAN PACIFIC RAILWAY LTD12
CANDLE CORP8
CAPTARIS INC8
CARNEGIE MELLON UNIVERSITY50
CENDANT CORP50
CERT COORDINATION CENTER16
CGI GROUP INC12
CHECK POINT SOFTWARE
TECHNOLOGIES LTD
CHINADOTCOM CORP12
CHOICE HOMES INC19
CISCO SYSTEMS INC 7,8,12,40
CLARK COUNTY SCHOOL DISTRICT 12
CLEARCUBE TECHNOLOGY INC1
COMMISSION ON PROFESSIONALS IN
SCIENCE AND TECHNOLOGY 19
COMPLIANT SYSTEMS
CONSULTING LLC35
COMPUTER ASSOCIATES
INTERNATIONAL INC, 1,8
CONEXUS TECHNOLOGIES LLC12
CONSOLIDATED CONTAINER CO14
CUTTER CONSORTIUM 47
DELL INC
DIETRICH LOCKARD GROUP INC12
DIGITAL CONSULTING INSTITUTE10
DOCUMENTUM INC

DOLE FOOD CO 54
EEYE DIGITAL SECURITY INC29
ELECTRONIC DATA SYSTEM5 CORP. 12,54
EMC CORP
EMCOR GROUP INC 19
ENRON CORP
EPCGLOBAL INC
EUROPEAN COMMISSION
EVALUATOR GROUP INC
EVOLUTION TEN CORP50
FAIRMONT STATE COLLEGE24
FARMERS INSURANCE GROUP50
FILENET CORP
FIRST AMERICAN TITLE INSURANCE CO 29
FORRESTER RESEARCH INC12.22
GARTNER INC
GEAC COMPUTER CORP
HARRIS INTERACTIVE INC24,47
HARVARD UNIVERSITY
HEWLETT-PACKARD CO
HITACHI DATA SYSTEMS CORP7
IBM CANADA LTD
IBM1,7,8,12,22,35,54
IDC1
INFORMATION SYSTEMS
SECURITY ASSOCIATION
INFORMATION TECHNOLOGY
ASSOCIATION OF AMERICA
INSURANCE SERVICES OFFICE INC7
INTEL CORP
INTERNAL REVENUE SERVICE
INTERNATIONAL STANDARDS
ORGANIZATION10
IRON MOUNTAIN INC34.35
J.D. EDWARDS & CO
JUPITER RESEARCH
LANDESK SOFTWARE CORP14
LEGATO SYSTEMS INC7
FVERAGE PARTNERS INC. 50.04

LIGHTSPEED SYSTEMS INC 24
MANPOWER INC
MARTIN MARIETTA CORP 54
MARTIN MARIETTA MATERIALS INC 54
MASSACHUSETTS PORT AUTHORITY 6
META GROUP INC 8.22
MGMMIRAGE1
MICROSOFT CORP 1,6,7,8,22
25,29.32.40.44.60
MIRAPOINT INC
MIT 38
NETSCREEN TECHNOLOGIES INC 40
NETWORK APPLIANCE INC7
NOVELL INC
O'HAGAN, SMITH & AMUNDSEN LLC S2
ORACLE CORP 1,8,19
ORGANIZATION FOR THE
ADVANCEMENT OF STRUCTURED
INFORMATION STANDARD58
OVUM INC34.35
PATCHLINK CORP. 14
PEOPLESOFT INC
PITNEY BOWES INC
PIVOTAL CORP
PRG-SCHULTZ INTERNATIONAL INC 19
PRICEWATERHOUSECOOPERS47
PROXIM CORP44
PTAK, NOEL AND ASSOCIATES 12
RADWARE INC
RAYMOND JAMES FINANCIAL INC
RECALL CORP35
RED FLAG SOFTWARE CO 6
RED HAT INC8
ROYAL CARIBBEAN CRUISES LTD7
ROYAL PHILIPS ELECTRONICS NV10
RSA SECURITY INC10,40
SAP AG8
SARATOGA INSTITUTE INC
SCANSOFT INC
SCAPA TECHNOLOGIES LTD
SECUREVISION LLC8
SECURITY MANAGEMENT
RESOURCES INC
SHAVLIK TECHNOLOGIES LLC
SOFTWARE AG8
SOFTWARE ENGINEERING INSTITUTE SO
THE PROPERTY OF THE PROPERTY O

.....(508) 820-8545

.....(508) 820-8142

SPHERION CORP	24,47,48
ST BERNARD 5 OFTWARE INC	14
ST. JUDE MEDICAL INC	6
SUMMIT STRATEGIES INC	12
	1,8,22,25
SYMANTEC CORP	52
TALI5MA CORP	12
	52
TEXAS INSTRUMENTS INC	10
THE CLIPPER GROUP INC	7
THE CONCOURS GROUP	47
THE JBOS5 GROUP LLC	8
THE ROBERT PLAN CORP	
THOMSON FINANCIAL	29
TRANSMETA CORP	1
TRICON GLOBAL RESTAURANTS INC	54
TRU5ECURE CORP	29
U.5. DEPARTMENT OF AGRICULTURE	7
U.S. DEPARTMENT OF DEFENSE	10
U.S. DEPARTMENT OF	
HOMELAND SECURITY	
U.S. DEPARTMENT OF JUSTICE	60
U.S. SECURITIES AND	
EXCHANGE COMMISSION	
U.S. STEEL CORP	34
UNIVERSITY OF CALIFORNIA, BERKLE	EY 36
UNIVERSITY OF FLORIDA	52
UNIVERSITY OF MIAMI	52
CUSTOMER CORP	
VENTURE DEVELOPMENT CORP	
VERITAS SOFTWARE CORP	
ERIZON COMMUNICATIONS	
/IASYSHEALTHCARE INC	
/ISUAL NETWORK DESIGN INC	
/ITAS HEALTHCARE CORP	
VAL-MART STORES INC	
VELLS' DAIRY INC	1
VESTAMERICA MORTGAGE CO	29
VIPRO LTD	
VORLDCOM INC	
AHOO INC	
ANTAZ INC	38

ADVERTISER'S INDEX

1&1 Internet ...

www.landl.com
Advanced Micro Devices63
American Power Conversion9
888-280-ADCC
AT&T4
Broadcom
www.broadcom.com
Canon2-3
Cisco
Dell
-M(:
www.emc.com -5 Networks
rujitsu
Hewlett-Packard20-21
www.hp.com RM Personal Computer Division 30-31 40 Et E2 64
Hewlett-Packard
www.lnm.com ntel www.intel.com
nterSystems Ensemble
VetIQ33
Ww.netig.com Jehwork Associates
ww.networkassociates.com
remier 10011 Leaders Conference24-25, 46*
Quantum DLTtape
Remedy a BMC Software company
ww.remedy.com
samsung
amsung Four Seasons of Hope
rend Micro Inc
eriSign
eriSign
ww.veritas.com

*Regional Select Edition

Microsoft Loosens Policy On Intellectual Property

Says anything in its portfolio could be available for licensing

BY STACY COWLEY

ICROSOFT CORP. last week unveiled a new technology-licensing policy that it said signals its commitment to working with other vendors on intellectual property swaps and is intended to drive interoperability and innovation.

Microsoft will create licensing programs to offer access to a broad range of its intellectual property, including copyrights, trademarks, file formats and schema, software technology, and Microsoftdeveloped standards specifications. The company also introduced programs offering technology and patent licenses for its ClearType technology for improving the readability of text on LCDs, and for its FAT (File Allocation Table) file-system storage format.

Some of the licensing programs will be royalty-free, like the Office XML schemas Microsoft began offering developers last month, executives said. Others, like its ClearType and FAT programs, will carry fees.

Microsoft's new licensing approach is unrelated to its antitrust settlement agreement with the U.S. Department of Justice and its ongoing skirmish over the same issue with the European Commission, according to Brad Smith, the company's general counsel. "We felt it was important to take this step, based on our strong dialogues with a number of other companies in our industry," Smith said.

Joe Wilcox, a Washingtonbased Jupiter Research analyst, called the new policy an "important first step" for Microsoft, as the industry's most notorious proponent of proprietary technology edges toward a more open approach to product development.

"Traditionally, Microsoft has been very guarded about its [intellectual property]. Its approach has been to try to differentiate itself from others with [it]," he said. "I think what you're really seeing here as much as anything is evidence of the changes going on within Microsoft."

Anything in Microsoft's portfolio is potentially available for licensing, Smith said. "Access to and exchange of intellectual property is really essential to the continued

growth and development of the broader IT industry," he said. "Microsoft is committed to licensing its intellectual property on clear, commercially reasonable terms based on industry norms."

Windows APIs in Demand

Although Microsoft owns a vast array of intellectual property, the technologies other developers most often clamor for are those associated with its Windows operating system and Office applications suite. Microsoft allows limited access to information on those products' underpinnings through initiatives such as its tightly controlled shared-source program. Executives were guarded about how extensively the

SAMPLE LICENSING FEES

File Allocation Table technology: 25 cents per unit incorporating the system, such as memory cards and digital cam-eras. Sees are capped at \$250,000 per manufacturer.

ClearType technology: Fees will generally be in the range of S1 to S3 per device, such as handheld computers and mobile phones.

company might consider expanding its Windows- and Office-related licensing.

"We're aware of the API issue," said David Kaefer, Microsoft's director of business strategy for intellectual property. "We'd like to improve information about the APIs that are already available, and then we need to see what people say. Clearly, to the extent that people are still asking questions about them, there's interest."

Microsoft has been working for nearly a year on developing a clearer intellectual property policy, Smith said, pointing to the company's recent hiring of Deputy General Counsel Marshall Phelps as a sign of its commitment to expanding licensing. Phelps will manage Microsoft's intellectual property portfolio and field requests for access.

Although Microsoft will charge for some of its licensing arrangements, the company doesn't expect the new programs to generate significant revenue. "That's not why we're doing this," Smith said.

Wilcox said he sees the new licensing approach as a sincere effort by Microsoft to play nicely with others in the industry. Steve Ballmer, now almost four years into his tenure as Microsoft's CEO, is more interested in industry collaboration than was his predecessor, Bill Gates, Wilcox said. • 43342

Cowley writes for the IDG News Service.

Continued from page 1

HP Blades

larger and larger systems with the same amount of technicians," Norby said.

Likely desktop replacement candidates are users who primarily use Windows and Office and who don't have a lot of custom applications running on their systems.

Although notebook users tend to be outside of the target market for thin clients, those who typically use their notebooks when connected remotely to a network can use them to connect to a blade.

The strongest candidates for PC blades are IT shops that have already "maxed out on how much improvement they can get out of their traditional desktops," said Jeff Groudan, vice president of product marketing in HP's Personal Systems Group.

Groudan claimed that com-

panies running 1,000 or more desktops could scrap as many as half of their existing desktop systems in favor of thin clients. HP believes a dedicated blade will offer consistent levels of performance, addressing a key concern some users have had about severbased thin clients, he said.

Officials at Austin-based ClearCube Technology Inc., which sells a PC blade system that uses Pentium 4 chips, said that more than 500 customers have adopted its systems. HP's decision to compete in the PC blade market "validates this whole PC blade computing category," said Raj Shah, ClearCube's chief marketing officer.

The U.S. Air Force's security forces headquarters at Lackland Air Force Base in San Antonio recently adopted PC blades from ClearCube after looking at a number of serverbased thin clients. Senior network engineer Rick Johnsen

said the blades provide a desktop experience that's indistinguishable from that of a fully loaded desktop PC. Moreover, the server-based options typically required additional training and didn't necessarily support peripherals such as card readers, he added.

Improved security over traditional desktop PCs is a major reason why military and in-

Blade Runner

The HP system will be available in March; pricing is as follows:

Desktop thin client: Starts at \$349

PC blade: \$799

Full implementation, including customization, implementation, training and support: Starts at under \$1,500 per seat, for very large users replacing tens of thousands of desktops with blades, it will be discounted to about \$1,000 per seat.

telligence groups have been early adopters of thin-client architectures, analysts say. And it's a need that may also drive private-sector businesses that are struggling with patch management to look more closely at thin clients.

Security "was big for us," said Johnsen. "What really sold us was the ability to manage the computers centrally."

Although HP sees a large potential for its PC blades, the reality is that thin-client systems, most of which are server-based, constitute only 1% of PC shipments. Market research firm IDC estimates 2003 thin-client shipments at 1.45 million units and forecasts 20% annual growth to 3.3 million units by 2007.

IDC analyst Bob O'Donnell said HP's move raises the profile of an industry sector dominated by small companies. "The thin-client industry needs a big player like HP behind it," he said. • 43336

Periodical postage paid at Framingham, Mass., and other mailing offices. Posted under Canadian International Publication agreement #40063800. CANADIAN POSTMASTER: Please return undeliverable copy to PO Box 1632. Windsor, Ontario N9A 7C9. Computerworld (ISSN 0010-4841) is published weekly: except a single combined issue for the last two weeks in December by Computerworld. Inc., 500 Old Connecticut Path, Box 9171, Framingham, Mass. 01701-9171. Copyright 2003 by Computerworld Inc. All rights reserved. Computerworld can be purchased on microfilm and microfiche through University Microfilms Inc., 300 N. Zeeb Road, Ann Arbor, Mich. 48106. Computerworld is indexed. Back issues, if available, may be purchased from the circulation department. Photocopy rights: permission to photocopy for internal or personal use is granted by Computerworld Inc., for libraries and other users registered with the Copyright Clearance Center (CCC), provided that the base fee of \$3 per copyright Clearance Center, 120 Reprints (minimum 100 copies) and permission to reprint may be purchased from Renee Smith, Computerworld Reprints, 20 Reprint Management Services, Greenfield Corporate Center, 1808 Colonial Village Lane, Lancaster, Pa., 17601, (717) 399-1900. Ext., 172. Fax: (717) 399-9900. Web site: www.reprintbuyer.com. E-mail: reprints@computerworld.com. Requests for missing issues will be honored only if received within 60 days of issue date. Subscription rates: \$5 per copy. U.S. ~ \$99.99 per year; Canada ~ \$130 per year, Central & So. America. \$250 per year, Europe ~ \$295 per year, Subscriptions call toll-free (888) 559-7327. POSTMASTER: Send Form 3579 (Change of Address) to Computerworld, PO Box 3500, Northbrook, III. 60065-3500.







FRANK HAYES • FRANKLY SPEAKING

Talk Is Cheap

ORE THAN 300 IT executives were at the National Cyber Security Summit last week (see story, page 1). About 97% of them were from IT vendors. What they got from Homeland Security Secretary Tom Ridge was jawboning about how the industry has to do more to secure cyberspace or else they just *might* be subject to government regulation.

Let's translate that: There won't be regulation anytime soon. Companies that aren't IT vendors aren't players in this game. And if your company wants better IT security, you're on your own.

Does that sound like a cynical assessment? It's not. A year after the first drafts of "The National Strategy to Secure Cyberspace" began circulating, we have a pretty clear picture of what the U.S. government is and isn't willing to do to beef up IT security, both in products and on the Internet.

The feds are willing to do a lot of encouraging. They're not willing to do much enforcing.

Compare that with what the feds have mandated for non-IT security: the airport checkpoints, the special registration programs for foreign nationals, the increased surveillance, the gun-toting guards. Whatever the effectiveness of these efforts, there's no doubt that the government is willing to take a strong hand when it comes to physical security.

Or compare it with what was mandated in the face of Y2k: corporate disclosure of the risks and costs of Y2k in financial statements filed with the Securities and Exchange Commission.

Real concern translates into action. But we're not getting that when it comes to cybersecurity. What we're getting is just a lot of talk.

There's nothing wrong with Ridge talking about the cybersecurity problem. It raises

awareness. It encourages people to kick around ideas. It signals that cybersecurity hasn't completely fallen off the radar.

But a serious, active cybersecurity push? It won't happen.

In fact, we aren't even likely to see the U.S. government use its formidable IT purchasing power to goose vendors along toward better security. In government IT, as in the private sector, cost is an issue — it's often *the* issue. And the lowest bid will always have an advantage over improved security.

And in practice, neither the government nor IT vendors even want to hear from corporate IT about security. So we are truly on our own.

What can we do? The usual, of course: beef up patch regimens. Test proactively. Turn on security features. Turn off other features that aren't needed. Encrypt. Subnet. Limit trust between machines wherever possible. Check logs at every level, from intrusion-detection systems down to individual users' PCs.

Then begin making a plan to transition to IP Version 6 — one of the few clear action items on the government's agenda.

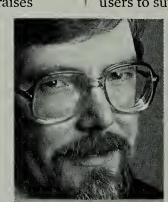
And then take a page from the government's playbook. As long as all we're getting from the feds is a lot of talk, use that talk. Make sure your top brass hear about last week's talkfest. Pull down a copy of "The National Strategy to Secure Cyberspace" from www.whitehouse.gov/pcipb. Circle the scary parts. Start laying the groundwork for a bigger security budget request in the next budget cycle.

Talk up security with non-IT managers. Underline the problem. Raise awareness. Ask for suggestions. Find out what it will take to get users to support security policies instead of

fighting them.

Then politic the heck out of your successes when you stop viruses, worms, intrusions and denial-of-service attacks. Let users and management know that the threats are there and that you can stop them — when you have help from users and the necessary resources in your budget.

It's not the same as having the full, active support of the U.S. government and IT vendors in securing cyberspace. But for now, it's all you're going to get. • 43293



FRANK HAYES, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com

The Old Light Bulb Problem

Why didn't the generators kick in during the latest power outage? wonders sysadmin pilot fish. The answer: A maintenance worker changing a fluorescent light bulb in the computer room accidentally tripped the emergency power-off switch when he pushed a box against it. "Because the switch is designed to be used in an emergency such as fire, injury or flood, the UPS system was not activated," fish sighs. "And this is our company's disaster-recovery hot site."

New Math Pilot fish needs the default password for a

software product, so he e-mails the
manufacturer's support
department - although
he's not sure they'll
agree to send password
via unencrypted e-mail.
The response: "The
password is a secret. But
if you solve 1/x where
x = 0.000810372 and
append '00' to the left of
the resulting four most
significant digits, the
password is evident."

Great Idea

This vendor's application runs fast and well in batch mode under DOS or Windows, and customers are happy with it. "Then a company bigwig came back from some industry conferences and was determined that we needed a Windows version, so users could interactively manipulate data," says a programmer pilot fish. After eight months of work, a proper Windows version is ready for customers to review. Their response? "They asked us if we could add hooks into the app," fish says, "so that it could be launched via command-line options and used in batch mode."

Not Your Father's Report Writer This over-

loaded university IT pilot fish can't generate all the reports requested by users, so his boss offers to pitch in using a Windows-based report writer. "I should be able to figure this out," boss tells fish. "I used to teach Cobol." Two weeks later, the boss hasn't written a single report, fish says. "But she did schedule one of the help desk analysts to attend training for the reporting software."

A Matter of Taste Vendor pilot fish is working with a new engineer, installing the product for a big customer, when the CD with the software doesn't seem to work. Did you bring a backup? fish asks. "No, but I'll get this one off," engineer says. Groans fish. "I knew I was in big trouble when - with several of the customer's IT bigwigs surrounding us he removed the CD, licked it profusely and put it back. I called the home office to FTP me what I needed - and requested a new engineer for my team when we got back home."

FEED THE SHARK! Send your true tales of IT life to sharky@computerworld.com. You snag a snazzy Shark shirt if we use it. And check out the daily feed, browse the Sharkives and sign up for Shark Tank home delivery at computerworld.com/sharky.



I need the ultimate 32-bit server and the ultimate 64-bit server to be the same server.

AMD

The AMD Opteron processor, superior 32-bit performance with expanded 64-bit capability. It's the only server processor designed to run your 32- and 64-bit applications simultaneously and without compromise. AMD Opteron runs on AMD64, a breakthrough architecture that enables 64-bit technology on the x86 platform—creating a new class of computing.

The world's highest performing 2P and 4P industry standard servers are now powered by AMD Opteron processors. Get unparalleled 32-bit performance and the ability to transition seamlessly to 64-bit computing.



Leverage your existing investments while preparing for the future. It's one architecture across your enterprise that offers industry leading performance for your 32-bit applications, and doesn't require a forklift upgrade as more 64-bit applications emerge. It's just another way AMD designs and builds processors with you in mind. For a closer look at the AMD Opteron processor, visit www.amd.com/opteron



Power and flexibility coordinate for exceptional UNIX performance.

On demand.

The human body performs exceptionally. So does the IBM server line for UNIX®. The new IBM eServer pSeries 615 offers 110% more performance than its powerful predecessor, but at one-third less starting cost! Prices start at \$5,745² It has everything. Fourth-generation POWER4+™ technology? Yes. Linux ready? Yes. Autonomic and self-healing features? Absolutely. On demand? Of course.

eServer: servers for on demand business.

Can you see it? For a white paper on why POWER4+ and more on IBM offerings for UNIX, visit **ibm.com**/eserver/p615



'Performance based on rPerf (Relative Performance) results of 2.50 for a 1-way p615 using 1.2GHz POWER4+ processors and 16GB of memory vs.1.19 for a 1-way p610 using 450MHz POWER3-II processors and 8GB of memory. rPerf is an IBM estimate of commercial processing performance. Pricing based on p615 Express Configuration with 1-way 1.2GHz POWER4+ processor, 1GB memory and one 36.4GB disk drive at \$5,745 vs. p610 Express Configuration with 1-way 450MHz POWER3-II processor, 1GB memory, CD-ROM and one 36.4GB disk drive at \$8,895. Both Express Configurations include AIX license and one year of Software Maintenance for AIX Operating Systems (SWMA). For p615 Express Configuration. U.S. list prices are current as of 6/23/03 and are subject to change without notice. Reseller prices may vary. IBM, the e-business logo, AIX, eServer, POWER4+ and pSeries are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. UNIX is a registered trademark of The Open Group in the United States and other countries. Other company, product and service names may be trademarks or service marks of others. © 2003 iBM Corporation. All rights reserved.